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ANNUAL REPORT

OF THE

Department of Public Health

INCLUDING

Vital Statistics Division

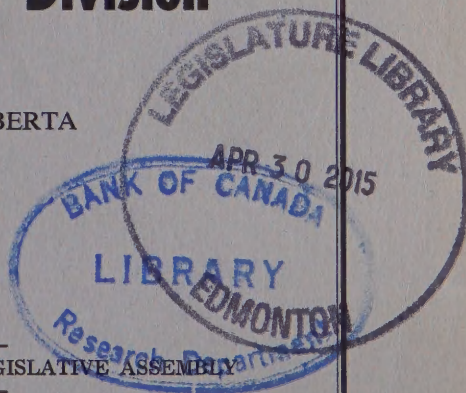
PROVINCE OF ALBERTA

1963

PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY

EDMONTON, ALBERTA

Printed by L. S. WALL, Printer to the Queen's Most Excellent Majesty
1965





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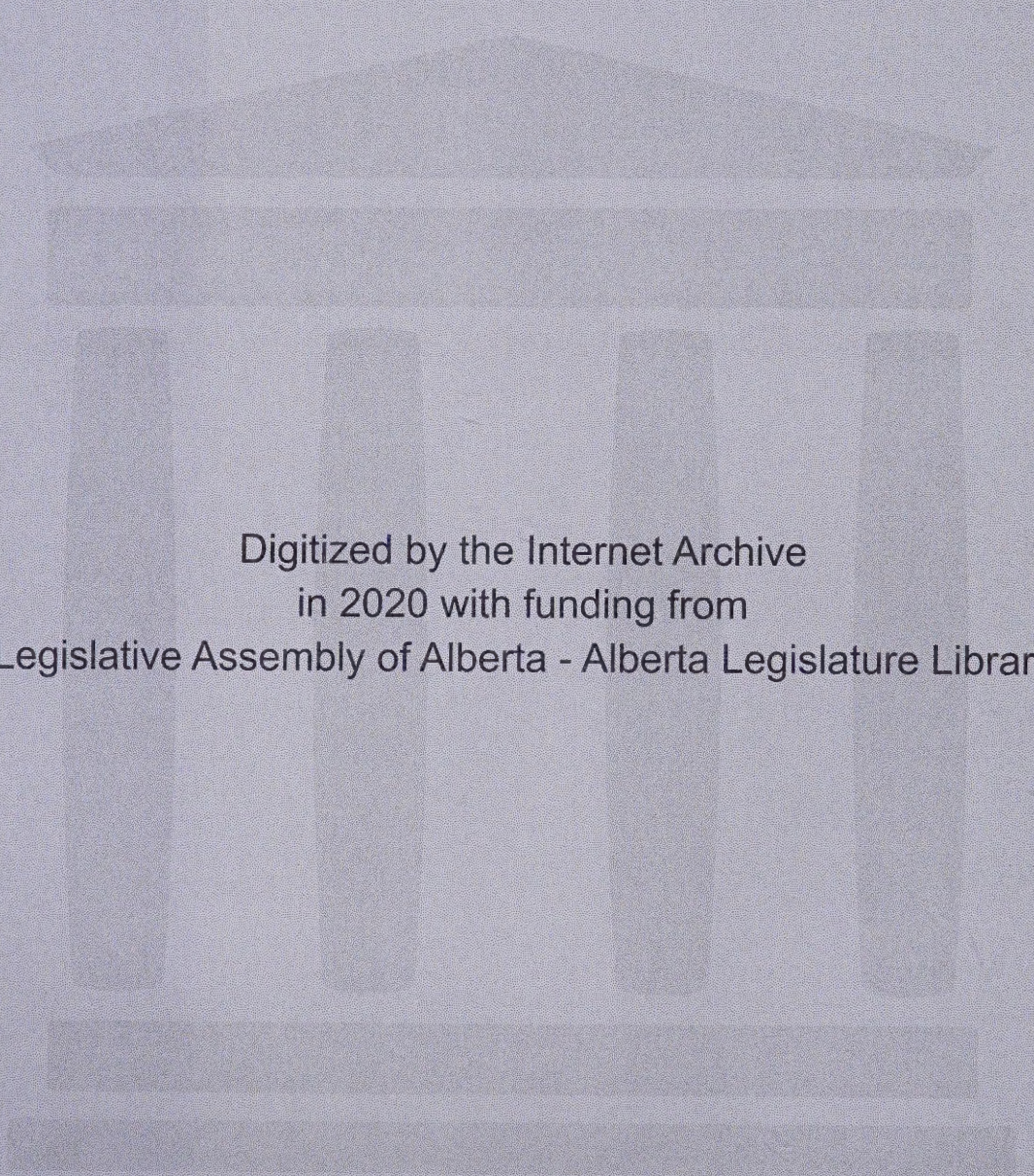
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November 30, 1964.

TO HIS HONOUR,

J. PERCY PAGE,

Lieutenant Governor of the Province of Alberta.

SIR:

I have the honour to transmit herewith, the Annual Report of the Department of Public Health for the year 1963.

I have the honour to be, Sir,

Your obedient Servant,

J. DONOVAN ROSS, B.A., M.D.,

Minister of Health.

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November 30, 1964.

TO THE HONOURABLE DR. J. DONOVAN ROSS,
MINISTER OF HEALTH,
Administration Building, Edmonton, Alberta.

SIR:

I have the honour to submit herewith, the Forty-Fifth Annual Report of the Department of Public Health.

I have the honour to be, Sir,

Your obedient Servant,

M. G. McCALLUM, B.Sc., M.D., D.P.H.
Deputy Minister of Health.

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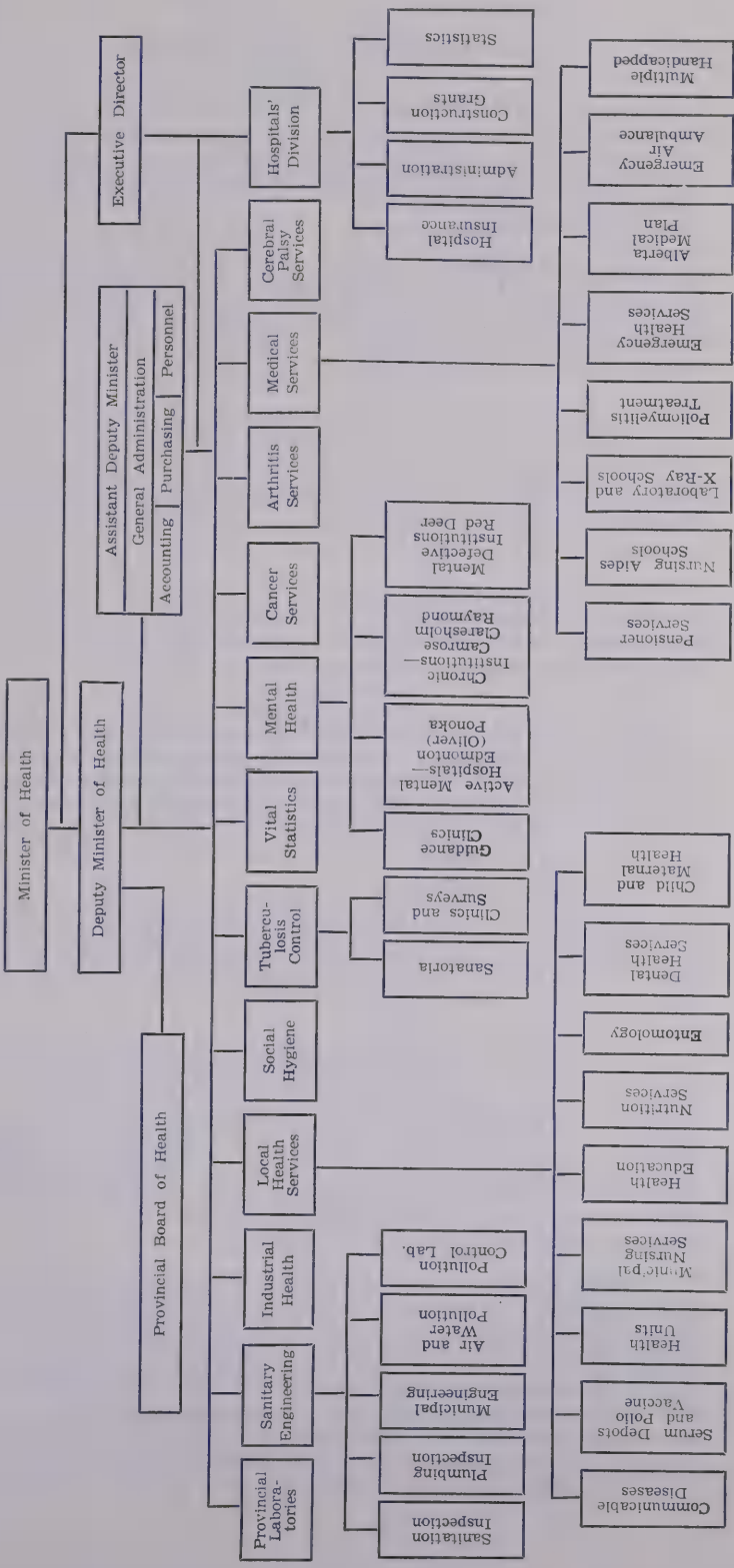
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PART II

Vital Statistics (See separate Contents Page)

Note: See separate publication covering Annual Report of the Hospitals Division for the year 1963.

Department of Public Health—Alberta DIVISIONAL ORGANIZATION January - 1964



PROVINCIAL BOARD OF HEALTH

The Provincial Board of Health met on three occasions during 1963. Some of the major items considered during these meetings are reviewed in this report.

There was no change in Board membership during the year. Dr. M. G. McCallum, Provincial Medical Officer of Health, was Chairman and Dr. R. D. Stuart, Provincial Bacteriologist, and Mr. H. L. Hogge, Provincial Sanitary Engineer were members. Mr. L. E. Stewart, Chief Sanitary Inspector acted as Secretary.

Regulations Passed or Amended During The Year

Alberta Regulation 25/63 (O.C. 1969-62). New Regulations Regarding Commercial Camp Grounds. These regulations establish minimum sanitation standards for places where persons are permitted to camp on payment of a fee.

Alberta Regulation 372/63 (O.C. 1303-63). Amendment to Regulations Governing Trailer Coach Parks. This amendment made a minor change in the requirements concerning the dimensions of porches and vestibules attached to trailer coaches.

In addition to the changes in regulations which were approved during the year, the Board gave consideration to several other proposed changes. Amongst these, a proposal to require periodic examination of persons engaged in the manufacture of cheese was being finalized at the year's end. Another proposal related to the use of chemicals in lakes, rivers, etc. to control or kill plants, weeds or fish. It appeared that this use of chemicals should be controlled by the issue of permits by the Provincial Board of Health.

A lengthy review of the Regulations Respecting Swimming Pools and Bathing Places entered the concluding stages before the year's end. As a result, recommendations were made for new regulations in these fields and also to cover man-made beaches.

The Board also considered proposed changes to the regulations to cover such matters as the provision of adequate food service equipment in motels which provide complimentary breakfasts to patrons, the definitions of certain classes of fluid milk and improvement in wall maintenance in dairy barns. In addition, suggestions to amend the restaurant regulations, bakeshop regulations, dairy regulations, and barber shop regulations were received from interested public health organizations. Many of these suggestions were receiving study under the direction of the Board at the year's end.

During the year a number of cases of persons who were suffering from tuberculosis in an infectious form and who were refusing treatment were reported to the Board. After proper investigation in each instance the Board issued ten orders covering removal of the persons to sanatoria for treatment under the provisions of the Communicable Disease Regulations. This may be compared with 2 such orders in 1957, 4 in 1958, 6 in 1959, 2 in 1960, 4 in 1961 and 5 in 1962. Whether or not there is special significance to the increase in 1963 can more properly be determined after examining the trend in 1964.

Seventeen persons, employees of the Provincial Department of Public Health and Municipal Nurses, were appointed to be Executive Officers of the Provincial Board of Health during 1963. There were 14 cancellations and at the year's end 46 such appointments were in effect.

Eighty-four nurses in public health work were issued authorizations by the Provincial Board of Health in 1963 certifying them to be capable of performing inoculations and vaccinations in accordance with section 41 of The Public Health Act. Sixty-four certificates were cancelled. At the year's end 208 authorizations were in effect compared with 188 at the end of the preceding year, representing an increase in the number of nurses employed in public health work.

Local health authorities have indicated interest in the possibility of establishing standards for bacterial quality of fluid milk. In order to facilitate possible inclusion of such standards in the regulations, the Board initiated a study of laboratory reports on fluid milk examinations. This study will be completed in 1964 and the report should outline the present situation and areas of difficulty.

It was brought to the Board's attention that a number of fluid milk samples examined in the laboratory were found to contain less milk fat than required by regulations. The Board brought this matter to the attention of local health authorities so that corrective steps could be taken. This matter is being kept under surveillance.

Stream pollution and air pollution continued to receive attention during the year. Sampling activities on the North Saskatchewan River and the Bow River provided information useful in the continuing program controlling pollution in these rivers. The monitoring programs in the Cities of Calgary and Edmonton continued to provide information on which to base further air pollution control action.

The Board gave its attention to many other matters related to health during the year. The Board gave guidance and direction to the various Divisions of the Department of Public Health and to Local Boards of Health so that a broad program could continue to protect and improve the health of the people of the Province.

LEGISLATION PASSED DURING THE YEAR

The Associated Hospitals of Alberta Act Amendment Act (Chapter 4)

This Act amends The Associated Hospitals of Alberta Act, being chapter 22 of the Statutes of Alberta, 1948.

Section 3 was amended to enable The Associated Hospitals of Alberta to provide services in addition to hospital service but not including the professional services of physicians. These additional services will include ambulance services, artificial limbs and the like. The language in clause (b) was amended to correspond with the present practice and with the language in other legislation.

Section 6 was amended to make the reference to The Alberta Insurance Act refer to the Revised Statutes, 1955, rather than the previous Revised Statutes. The section was also amended for the same reason as clause (b) of section 3.

Section 17 was amended to make the reference to section numbers correspond to the Revised Statutes of 1955 rather than the previous Revised Statutes.

The Act was given a short title for the purposes of convenience.

This Act came into force on March 29th, 1963.

The Cancer Treatment and Prevention Act Amendment Act (Chapter 5)

This Act adds a new section 7 to The Cancer Treatment and Prevention Act. The new section enables the Minister with the approval of the Lieutenant Governor in Council to appoint a lay advisory board and a medical advisory board.

This Act came into force on March 29th, 1963.

The Cemeteries Act Amendment Act (Chapter 6)

This Act amends The Cemeteries Act. A new section 9a deals with the disinterment of a body. This section is a re-enactment of section 20 of The Vital Statistics Act. The change is made to put the section in a more appropriate place.

A new section 24a was added to give crematories authority to dispose of unclaimed ashes.

Section 40 was amended to give the Lieutenant Governor in Council additional power to make regulations relating to cemeteries, mausolea and crematories.

Section 20 of The Vital Statistics Act, 1959, was repealed.

This Act came into force on March 29th, 1963.

The Chiropractic Act Amendment Act (Chapter 8)

This Act amends The Chiropractic Act by revising section 4, subsection (4a) to make it clear that a person who is exempted from membership in the Alberta Chiropractic Association because of his religious beliefs is otherwise subject to the same supervision and control as members.

This Act came into force on March 29th, 1963.

The Health Unit Act Amendment Act (Chapter 23)

This Act amends The Health Unit Act. Section 7 was revised to eliminate differences that formerly existed in the remuneration of members of a board when some are councillors for a municipal district or county and others are councillors for a town or village.

Section 13, subsections (1) and (2) were amended for the same reason as the amendment to section 7.

Section 16, subsection (1), clause (b), and subsection (4) were amended in order to ensure that dental grants are used exclusively for dental purposes. A new subsection (4a) was also added for the same purpose.

A new subsection (2a) was added to section 17 to enable the Minister of Municipal Affairs to give financial assistance to an improvement district or special area whose funds are insufficient to meet the share of its contribution under subsection (2).

Section 18, subsection (3) was revised to ensure that funds are applied to the purpose for which they were intended under this Act.

Sections 18c and 18d were added to provide for the extension of health unit services to Indian reservations by agreement and also to ensure medical services in northerly parts of the Province.

A new section 21 was added to enable the Lieutenant Governor in Council to approve in special cases the giving of financial assistance to a health unit which through circumstances beyond its control is faced with expenses that place too great a burden on its financial resources or those of a contributing council.

This Act came into force on March 29th, 1963.

The Psychiatric Nurses Association Act (Chapter 45)

This new Act cited as The Psychiatric Nurses Association Act, will incorporate the Psychiatric Nurses Association of Alberta with the power to license, regulate and discipline its members.

This Act came into force on March 29th, 1963.

The Radiological Technicians Act (Chapter 56)

This new Act cited as The Radiological Technicians Act, establishes the Medical Radiological Technicians Board with authority to regulate the qualifications and standards of x-ray technicians. Because of the different nature of their work, separate provisions are made for medical technicians and industrial technicians.

This Act came into force on August 1st, 1963.

The Treatment Services Act Amendment Act (Chapter 70)

This Act amends The Treatment Services Act. A new section 5 provides for treatment services for diseases not specifically mentioned in the Act and a new section 6 provides for the establishment of a professional advisory committee. The former sections 5 and 6 were previously repealed.

Section 7 was repealed because the program formerly provided by that section will be covered by the new section 5.

Section 10 was revised to remove the restriction on the amount of subsidy that may be provided for and to increase the kind of treatment service that may be provided in clause (b). Sections 11, 11a, 11b and 11c were added. The new section 11 provides for the Minister, with the approval of the Lieutenant Governor in Council, to enter into agreements with the Associated Hospitals of Alberta with respect to its Blue Cross Plan or with any insurance corporation to provide extended health benefits, exclusive of medical services for the assistance of eligible residents who need financial assistance. Subsection (2) of section 11 provides that the Lieutenant Governor in Council may approve regulations made by the Minister.

The new section 11a provides that the Lieutenant Governor in Council may establish a program to provide financial assistance for residents in cases where expenses could not reasonably be foreseen and guarded against. Section 11b provides for the establishment of an advisory committee to consider the operation of prepaid medical and health programs under sections 10 and 11. Subsection (2) of that section provides that expenses incurred in the operation of the committee may be paid from the General Revenue Fund. The new section 11c

provides that any assistance obtained through fraud or misrepresentation may be recovered as a debt due to the Crown.

This Act came into force on March 29th, 1963.

The University of Alberta Hospital Act Amendment Act (Chapter 71)

This Act amends The University of Alberta Hospital Act by revising section 5 which deals with the composition of the Board. Under the new section the Board consists of the president of the University or in his absence, the vice-president, the dean of the Faculty of Medicine or in his absence, the assistant dean, and not more than seven other persons to be appointed by the Lieutenant Governor in Council.

This Act came into force on March 29th, 1963.

The Vital Statistics Act, 1959

Section 20 of this Act was repealed by The Cemeteries Act Amendment Act (Chapter 6).

DEPARTMENT OF PUBLIC HEALTH REVENUE AND EXPENDITURE FOR FISCAL YEAR ENDING MARCH 31, 1964

	Expenditure	Revenue
2401 Administration—General	\$ 27,074.72	\$
2402 Administration—General	146,524.88	22,709.91
2405 Vital Statistics	110,970.31	157,071.69
2408 Professional Acts	899.61	.....
2409 Civil Service Nurse	9,514.63	.....
2410 Alcoholism Foundation of Alberta	250,000.00	.....
2411 Health Services—Extension Program	1,319,837.82	1,515,298.47
2412 Hospital Construction Grant	5,079,665.28	1,756,443.82
2453 Hospitals Division	60,598,085.92	29,803,582.10
2414 Communicable Diseases	139,872.35	.....
2415 Health Units and Grants for Public Health Services	1,558,459.72	787,924.12
2416 Municipal Nursing Service	120,123.79	58,627.99
2417 Dental Health Services	10,796.74	.....
2418 Public Health Education	35,083.45	.....
2419 Entomology and Vector Control	23,468.22	.....
2420 Poison Control Services	5,448.54	.....
2421 Public Health Laboratories	750,000.00	330,000.00
2422 Social Hygiene	118,990.55	40,325.75
2425 Sanitary Engineering	222,840.66	84,481.82
2428 Industrial Health Services	16,720.03	.....
2430 Medical Services	2,172,455.40	.....
2432 Medical Care Program	1,176,793.87	.....
2433 Insulin and Other Special Drugs	38,092.63	516.00
2434 Emergency Air Ambulance Services	17,492.72	.....
2436 Nursing Aides	334,354.88	327,043.61
2437 Laboratory and X-Ray School	30,850.63	19,965.53
2440 Poliomyelitis	104,102.09	.....
2441 Medical Rehabilitation Services	13,530.25	.....
2442 Cerebral Palsy Clinics	116,730.28	58,087.04
2443 Arthritis Services	15,963.50	.....
2444 Multiple Handicapped Program	1,741.43	.....
2450 Cancer Services	1,382,212.09	529,636.55
DIVISION OF TUBERCULOSIS CONTROL		
2455 Director's Office and Clinics	150,550.39	28,824.07
2456 Aberhart Memorial Sanatorium, Edmonton	1,025,826.63	211,228.66
2457 Baker Memorial Sanatorium, Calgary	1,082,350.52	351,776.23
DIVISION OF MENTAL HEALTH		
2460 Director's Office and Guidance Clinics	317,089.30	146,100.00
2463 } Provincial Mental Hospital, Ponoka	2,698,314.90	515,821.49
2464 } .....	.....	.....
2465 } Provincial Mental Institute, Edmonton	2,795,485.96	651,734.88
2466 } .....	.....	.....
2467 Rosehaven, Camrose	784,418.96	371,537.50
2468 Provincial Mental Hospital, Claresholm	339,887.45	74,569.92
2469 Provincial Auxiliary Mental Hospital, Raymond	140,577.48	36,796.64
2472 Emotionally Disturbed Children's Program	74,180.09	11,018.00
2475 Provincial Training School, Red Deer	2,013,855.17	395,839.77
2477 Deerhome, Red Deer	2,038,396.47	351,017.55
	<u>\$89,409,630.31</u>	<u>\$38,637,969.11</u>
Total Expenditure—Public Health Department	\$89,409,630.31	
Less Public Health Revenue		38,637,969.11
Net Expenditure—Department of Public Health		<u>\$50,771,661.20</u>

Vital Statistics

The Vital registrations during the year were as follows:

Births	38,467
Marriages	10,163
Deaths	9,444

The population for 1963 was 1,405,000 and, therefore, the following rates have been recorded:

Year	No. of Births	Birth Rate	No. of Marriages	Marriage Rate	No. of Deaths	Death Rate
1958	36,842	30.7	10,186	8.5	8,237	6.9
1959	38,080	30.6	10,402	8.4	8,481	6.8
1960	39,009	30.4	10,482	8.2	8,888	6.9
1961	38,914	29.2	10,474	7.9	8,863	6.7
1962	38,804	28.3	10,423	7.6	9,264	6.8
1963	38,467	27.4	10,163	7.2	9,444	6.7

On the whole these figures are good. The birth rate is down slightly. The natural increase (excess of births over deaths) was 29,023.

Alcoholism

The Alcoholism Foundation of Alberta is a voluntary society supported during the fiscal year 1963-64 by the Province of Alberta by a grant of \$250,000.00. This was approximately 81% of their income. The Foundation recognizes alcoholism as a treatable illness and a public health responsibility and is, therefore, concerned with problem drinking. Its aim is to prevent problem drinking through education, treatment and research. In carrying out this program, 967 new files were established in 1963, bringing the total of alcoholics known to the Foundation in ten years of operation to 7,181. 78% of these alcoholics have received treatment and it is conservatively estimated that 55% have "recovered" or shown significant improvement.

Communicable Diseases

In reviewing the incidence of communicable diseases, it would appear that acute poliomyelitis had reached the lowest level of all time in Alberta with the reporting of only two cases, one of which died. This is explained by the intensive use of Salk vaccine for immunization purposes, followed in 1963 by the use of oral Sabin vaccine, which we trust will ultimately reduce the number of paralytic poliomyelitis cases to a minimum.

Health Units

There was an increase in the grant to health units to provide for more dental services in the units. There was also the graduation of approximately 20 dental auxiliaries for the purpose of providing prophylactic dental services in the health units under the direction of dentists.

Public Health Nursing

Under the guidance of the director of this program there has been a gradual increase in the number of public health nurses employed by

official health agencies throughout the Province. Thus, there is a greater potential to provide health services in these areas.

Maternal and Child Health

The appointment of a new nurse consultant, Mrs. T. B. Ebert, in this area was responsible for the stimulation of comprehensive programs for the improvement of the service for the care of mother and child.

Dental Health Services

Dr. A. T. Salter, a new full-time Director of Dental Health Services, was employed late in 1963 by the Department of Health. Under Dr. Salter the dental auxiliary courses are progressing and the first class of 1963 was placed in health units and city health services and these dental auxiliaries are functioning satisfactorily. A second class will be available for our Dental Health Services program early in 1964.

Health Education

With the employment of a new Director of Public Health Education early in 1963 this branch returned to a very active program. It provides a consultative and advisory service to health units, as well as providing publicity and advertising material for both the Department Divisions and Local Health Units.

Thalidomide Program

The thalidomide program for infants, deformed prenatally as a result of the mother of the child using the drug "thalidomide" in her early months of pregnancy, was put into operation in October, 1963. Work was begun on six infants born in Alberta. Prostheses were provided for these infants and a continuing program was instituted at that time.

Alberta Medical Plan

A comprehensive medical plan providing one level of medical benefits in a basic standard contract was put into operation in October, 1963. Physicians' services, laboratory services and diagnostic aids, in and out of hospital, are provided. This plan subsidizes the individual who purchases a contract and is not liable to pay any federal income tax and also an individual who is liable to pay income tax on not more than \$500.00. The subsidy approximately equals one-half of the premium in the first case and one-quarter of the premium in the second case. (See Annual Report for further details.)

Registry for Handicapped Children and Adults

A registry for physically and mentally handicapped children and adults was put into operation in the Medical Services Division on September 1st, 1963. The plan calls for eventual registration of all handicapped residents of the Province. Assistance has been pledged by health units and voluntary agencies, and it is hoped the medical profession will co-operate in registering handicapped individuals throughout the Province on a voluntary basis. The registry anticipates that it will function in coming years as a referral, research and information centre.

Diabetic Drug Program

Hypoglycemic drugs are provided free under a means test to individuals for the treatment of diabetes. As of December 31st, 1963, 838 persons in the Province were making use of this free service.

Phenylketonuria Therapy Program

Under this program which was instituted in 1960, provision is made to supply newborn infants who suffer from the congenital defect of phenylketonuria with a food supplement to prevent mental deficiency which develops otherwise as a result of the condition. Ten children have been benefited by this dietary preparation.

Rheumatic Fever Prophylaxis Program

This program has continued to provide prophylactic treatment for a considerable number of children who have previously suffered one or more attacks of rheumatic fever.

Emergency Air Ambulance Service

This program continues to provide transportation service of acutely ill isolated medical and surgical cases, as well as premature infants, to hospital. Its use in moving road accident cases to hospital is on the increase.

Poliomyelitis Treatment Program

The incidence of new cases of poliomyelitis in the Province has diminished to an occasional case. The total admissions to hospital in 1963 numbered 216 as compared to 476 in 1960.

There were only six isolation hospital days in 1963 as compared to 1,738 in 1960. Total hospital days — 31,859 in 1960 and 12,218 in 1963.

The total expenditure under the poliomyelitis program was \$105,331.31 in 1960 as compared to \$82,374.25 in 1963. Surgical procedures in 1963 accounted for \$22,265.00, while appliances and outpatient services accounted for \$41,113.00. This is a progressively diminishing expenditure and in due course we would anticipate a very small expenditure of funds under the poliomyelitis program.

Treatment Services for Social Service Recipients

The Department of Health continues to provide medical, dental, chiropractic and optical services for this group. There were 63,022 individuals entitled to benefits under this program.

Schools for Nursing Aides

The Department of Health continues to operate two schools for nursing aides and in 1963 there were 527 certified. The demand by hospitals and nursing homes for these certified nursing aides continues to increase.

Nursing Recruitment Program

The need to maintain a supply of qualified nurses is ever increasing due to the accelerated expansion of our hospitalization program.

Laboratory and X-Ray School

There is continuing need for this school to train individuals in both radiology and laboratory techniques to supply technicians for the smaller hospitals in the Province.

Cancer Services

The Cancer Clinics in Edmonton and Calgary have been providing a definite increase in service during 1963, while Lethbridge has continued to operate at an adequate level. The increase in new patients referred was 456, being a 12% increase. There was an increase of 10% in malignancies discovered.

Plans for the new Edmonton Clinic are progressing and it is anticipated that construction of the new building will be commenced before the next annual report.

Social Hygiene

Statistics compiled by the Director of Social Hygiene shows a rise of appreciable portion in the gonorrhoea rate in the Province. Syphilis shows only a slight increase. It is essential that the tracing of new cases and contacts in this service be intensified in the interest of protecting the public and that a lower incidence, particularly of gonorrhoea, be established.

Provincial Laboratories

There was a considerable increase in the laboratory procedures carried out in our Provincial Laboratories in 1963, with 949,664 examinations. This is an increase of 20% over any previous year. There was a trend toward the development of a diphtheria epidemic in northern Alberta and it was only due to the work of the health units and the Provincial Laboratories that this was held in check.

Sanitary Engineering

The program of this Division in 1963 continues to be influenced by the growth of the urban areas and the increase in industrial development in the Province.

There was some decrease in the approved projects for water and sewerage systems. Of the 146 final certificates issued 13 of these were for new systems.

The operation of the Pollution Control Laboratory entailed the examining of 579 samples relating to stream pollution, 3527 relating to air pollution and 4219 relating to municipal problems. The air pollution studies relating to two gas processing and sulphur recovery plants in the Pincher Creek-Waterton area indicated on final review that the families adjacent to this area were not being adversely affected physically. This area is, however, being carefully watched by the Engineering staff.

Water pollution studies continued to function throughout the year with water sampling surveys in the major rivers throughout the Province. Regulatory investigation in regard to industrial and municipal wastes were continued.

The sewage pond studies were continued.

Approval was given to 25 new swimming pools.

The fluoridation of public water supplies had increased in number to 14 communities.

Compulsory milk pasteurization by-laws have now been approved by a total of 41 cities, towns and villages.

The Sanitary Inspectors' section was very busy throughout the year. There were positions throughout the Province available for 67 inspectors, not all of which could be filled.

Industrial Health Services

This Division had its beginning in 1962 and in 1963 it launched into a study of many of the industrial processes in the Province to ascertain the hazards created for workmen in these areas. The main problems to date appear to be the creation of dust, gases, fumes and noise hazards which subsequently will need careful study and assessment, thus assisting in providing workmen in these areas with a greater degree of health protection.

Tuberculosis Control

In 1963 there was a further decrease in the number of active tuberculosis cases discovered from 28.3 cases in 1962 to 25.8 cases in 1963 per 100,000 population. However, in many provinces of Canada there has been some slight increase in the new active cases. Continued effort is needed to maintain this improvement in the tuberculosis level and greater effort must be turned to the use of our mobile clinics in the north country to promote further improvements in the situation as it presently exists.

Mental Health Services

The capacity of the various mental institutions and the number of patients as at December 31, 1963, is as follows:—

	Capacity	Patients in
ACUTE MENTAL HOSPITALS		
P.M.H., Ponoka	1,272	1,062
P.M.I., Edmonton	1,416	1,441
CHRONIC MENTAL HOSPITALS		
Rosehaven, Camrose	510	501
P.A.M.H., Claresholm	412	196
P.A.M.H., Raymond	127	124
INSTITUTIONS FOR MENTAL DEFECTIVES		
P.T.S., Red Deer	792	844
Deerhome, Red Deer	1,020	958
EMOTIONALLY DISTURBED CHILDREN'S UNIT		
Linden House, Red Deer	25	18
Total	<u>5,574</u>	<u>5,144</u>

Construction on the new reception-administration building at the Provincial Mental Hospital, Ponoka, continued. The renovation of one of the older buildings at the Provincial Mental Institute, Edmonton, was completed. Transfer of approximately 100 women patients from the Provincial Mental Institute, Edmonton, and the Provincial Mental Hospital, Ponoka, to the new dormitories at the Provincial Mental Hospital, Claresholm, was carried out during the year. The original building in which the administration offices were located was demol-

ished, and the site made ready for a new administration building. Meanwhile, parts of the new dormitories are being used for office accommodation.

Remodelling of another section of a dormitory at the Baker Memorial Sanatorium was carried out for 45 paediatric mentally retarded cases. The sites for the new infirmary ward and the new Services Building were prepared at the Provincial Training School, Red Deer.

Hospital Services

For information regarding the Alberta hospitalization program, it will be necessary to refer to the 1963 Annual Report issued by the Hospitals Division.

Professional Acts

In regard to the subject of Professional Acts, the Minister of Health is charged with the administration of the following:

- The Chiropractic Act
- The Dental Association Act
- The Medical Profession Act
- The Naturopathy Act
- The Optometry Act
- The Alberta Pharmaceutical Association Act
- The Chartered Physiotherapists Act
- The Podiatry Act
- The Veterinary Surgeons Act
- The Psychologists Association Act

With reference to The Podiatry Act and The Optometry Act, Boards of Examiners have been established by the Department in order to license all members who desire to practise in Alberta. Pursuant to The Chiropractic Act and The Naturopathy Act, Appraisal Boards have been formed by the Department of Health in order that members wishing to practise in Alberta may be "listed" through the Provincial Government. With regard to the other Professional Acts, membership is obtained through the various Associations established under each respective Act.

During the calendar year 1963, the Chiropractic Appraisal Board approved twenty applications and rejected three. The Board of Examiners pertaining to The Optometry Act issued six licenses and rejected one candidate. The Naturopathy Appraisal Board reviewed and approved three applications and rejected one, while no applications were received pursuant to The Podiatry Act.

Respectfully submitted,

M. G. McCallum, B.Sc., M.D., D.P.H.,
Deputy Minister of Health.

DIVISION OF LOCAL HEALTH SERVICES

E. S. O. Smith, M.A., M.B., B.Chir., D.P.H., D.I.H., Director.

The Division of Local Health Services is composed of the following branches, each with a separate budgeting appropriation, and with a director in charge of each:

- (1) Communicable Diseases
- (2) Health Units
- (3) Public Health Nursing, including Maternal and Child Health
- (4) Dental Health
- (5) Health Education, including Nutrition Services
- (6) Entomology and Vector Control
- (7) Poison Control Services

The Director of the Division of Local Health Services is personally responsible for directing both the Communicable Disease Control branch and the Health Units branch, while the Director of Entomology and Vector Control also directs the Poison Control Service. The staff of the Public Health Nursing branch includes a Nursing Consultant in Maternal and Child Health, while the staff of the Health Education branch includes a Nutrition Consultant.

The Division of Local Health Services serves in an advisory capacity to Health Unit Boards and Medical Officers of Health in relation to administrative problems, and in a consultant capacity to Medical Officers of Health and the senior members of Health Unit staffs in relation to technical problems within the competence of its professional staff.

Through the Division of Local Health Services, the Department pays grants for general health services and dental services to City Health Departments and Health Units, and contributes 60 per cent towards the operating costs of Municipal Nursing Services.

In 1963 the Department was authorized by new legislation to make provision for emergency treatment services and preventive health services in isolated areas, and this authority was used to establish under the Division's supervision a Contract Nursing Service at Atikameg and a Contract Health Service at Fort McMurray.

Dr. C. W. B. McPhail resigned on the 31st March 1963 his part-time appointment as Director of Dental Health in order to devote the whole of his time to his duties at the University of Alberta. He was succeeded by Dr. A. T. Salter, who was appointed on a full-time basis effective the 4th November 1963.

Two vacancies of long standing were filled by the appointment of Mrs. Beryl Ebert as Nursing Consultant in Maternal and Child Health on the 18th February 1963, and of Mr. J. C. MacNeill as Director of Health Education on the 25th March 1963.

Four members of the Division were privileged to attend the 54th annual meeting of the Canadian Public Health Association in Winnipeg from the 27th to the 30th May 1963, at which the Director of Local Health Services was elected a Vice-President of the Association.

The Director of Local Health Services attended the second meeting of the Advisory Committee on Epidemiology in Ottawa on the 12th and 13th September 1963, and a meeting of the National Technical Advisory Committee on Live Poliovirus Vaccines in Ottawa on the 16th and 17th September 1963.

The reports which follow describe in more detail the functions of the various branches of the Division, and their activities during the year.

COMMUNICABLE DISEASES

E. S. O. Smith, M.A., M.B., B.Chir., D.P.H., D.I.H., Director

The Communicable Diseases branch of the Division of Local Health Services is responsible for the following functions:

- (1) The collection, preparation and transmission of information, and the compilation and evaluation of statistics, concerning the morbidity and mortality of communicable diseases;
- (2) The provision of consultant services to local health authorities on matters relating to the prevention and control of communicable diseases;
- (3) The direction or application of control measures against communicable diseases in areas administered by the Provincial Government which are outside the jurisdiction of Health Units;
- (4) The interpretation and distribution of Communicable Disease Regulations;
- (5) The distribution of immunizing antigens and sera, and supervision of the utilization of those in limited supply;
- (6) The appraisal of immunization programs, and the publication of specific recommendations in relation to them.

PARALYTIC POLIOMYELITIS

There were only two reported cases of paralytic poliomyelitis in 1963, the lowest number on record, but one of these cases was fatal. By way of comparison, there were 26 cases with two deaths in 1961, and six cases with no fatality in 1962. Attempts at virus isolation were unsuccessful in both the 1963 cases. The patient who recovered was a two-year-old boy who had never been immunized. The patient who died was a four-year-old girl who had received five inoculations of Salk vaccine followed by one dose of trivalent Sabin vaccine, with an interval of nearly six months between oral vaccine feeding and the onset of illness; diagnosis was based upon the post-mortem finding of very marked perivascular infiltration in the upper spinal cord and medulla, and of similar changes in the remainder of the spinal cord, with marked destruction of anterior horn cells.

VIRAL OR ASEPTIC MENINGITIS

There were 42 reported cases of viral or aseptic meningitis during 1963, with one death due to an associated encephalitis which occurred in a woman age 52. The number of cases compared favourably with 84 reported in 1961 and 53 reported in 1962, but the death was the first ever recorded in this category. Sabin attenuated type 1 poliovirus was identified in one case, while Coxsackie viruses were identified in 13 cases (ten type A23 and three type A unspecified). The aetiology of the remaining 28 cases, including the fatal case, was undetermined. The patient from whom poliovirus was isolated was a six-year-old boy who had received four inoculations of Salk vaccine followed by one dose of Sabin vaccine, with an interval of only one day between oral vaccine feeding and the onset of illness.

TYPHOID FEVER

There were only two reported cases of typhoid fever in 1963, compared with 16 in 1961 and eight in 1962. There was no fatality in any of these years. The incidence in 1963 appears to have been the lowest ever recorded.

DIPHTHERIA

There were 29 cases of diphtheria notified during 1963, with three deaths. The number of cases was equal to the combined total of 19 reported in 1961 and ten reported in 1962, all of which recovered. Both morbidity and mortality were at their highest levels since 1957. None of the patients who died had received more than one dose of diphtheria toxoid, and two had never been immunized at all; one of the latter was an eight-year-old boy whose parents objected to immunization on religious grounds.

In addition to the 29 clinical cases, there were 171 diphtheria carriers reported during the year, compared with three in 1961 and 23 in 1962. The threat to unprotected persons represented by the discovery of this remarkably large number of carriers among the population emphasizes the continuing importance of early and adequate immunization.

MEASLES

The number of measles cases reported during the year was 8,535, compared with 6,309 cases in 1961 and 10,185 cases in 1962. The number of deaths from measles was ten, compared with four in 1961 and five in 1962. Measles thus continues to be one of the most prevalent diseases of childhood, and carries with it a mortality rate which, for six out of the last nine years and consistently for the last three years, has exceeded that of paralytic poliomyelitis. Now that reliable measles vaccines are starting to become available, it is clear that serious consideration must be given to the desirability of including one or more of these antigens in the regular immunization program, at least for the youngest and most vulnerable age groups.

STREPTOCOCCAL INFECTIONS

The number of notified cases of scarlet fever and streptococcal sore throat in 1963 was 1,153, and there was no fatality. These figures compared satisfactorily with 1,673 cases and two deaths reported in 1961, and with 1,235 cases and no fatality reported in 1962.

INFECTIOUS HEPATITIS

The number of cases of infectious hepatitis reported during the year was 1,300, compared with 1,006 in 1961 and 1,726 in 1962. Since the disease was not officially notifiable until 1962, however, the reliability of the 1961 figure is open to question. The number of deaths from infectious hepatitis was ten, compared with ten in 1961 and five in 1962.

IMMUNIZATION

Immunizing antigens and sera to the value of approximately \$196,000 were distributed during 1963 with the assistance of the Provincial Laboratory of Public Health. The corresponding expenditures in the previous two years were approximately \$153,000 in 1961 and approximately \$201,000 in 1962.

Sabin trivalent oral poliovirus vaccine was introduced into Alberta for the first time in 1963. To minimize the risk of neurological sequelae, the vaccine was offered only to persons who had completed a series of Salk vaccine inoculations at least one month previously. For persons who were eligible, the recommended course consisted of two doses of the oral vaccine at an interval of not less than six weeks. The program was deliberately confined to the winter months, when the low prevalence of enteroviruses could be expected to enhance the individual attainment of immunity, and when opportunities for the natural transmission of

TABLE 1—TABLE SHOWING ELIGIBILITY FOR AND ACCEPTANCE OF SABIN VACCINE IN RELATION TO FIRST AND SECOND ROUNDS OF FEEDING

Category	Estimated Population	Eligible for Sabin Vaccine		Fed 1st Dose of Sabin Vaccine				Fed 2nd Dose of Sabin Vaccine				Total 2nd Doses	
		Number	Percentage of Population	Total			After 1st Dose in Alberta		After 1st Dose Outside Alberta				
				1st Round	2nd Round	Percentage of Eligibles	Number	Percentage of 1st Round	1st Round	2nd Round			
Pre-school children	202,171	138,417	68.5	56,123	17,738	73,861	53.4	48,974	87.3	181	121	302	49,276
School children	330,778	300,052	90.7	285,018	15,129	280,147	93.4	255,111	96.3	865	364	1,229	256,340
Adult males	395,577	124,278	31.4	52,972	10,749	63,721	51.3	42,644	80.5	241	118	359	43,003
Adult females	402,917	171,307	42.5	71,429	17,848	89,277	52.1	59,280	83.0	452	164	616	59,906
Total	1,331,443	734,054	55.1	445,542	61,464	507,006	69.1	406,019	91.1	1,739	767	2,506	408,525

vaccine viruses were considered to be diminished. Feedings were therefore organized in two distinct rounds, each limited to a duration of two weeks, the first round beginning on the 21st January 1963 and the second round beginning on the 18th March 1963. Because of the importance attached to post-vaccination surveillance, administration of the vaccine was handled entirely by City Health Departments and Health Units, and was limited to these areas.

An analysis of eligibility for and acceptance of Sabin vaccine in relation to the first and second rounds of feeding is presented in Table 1.

TABLE 2
NUMBER OF CASES OF COMMUNICABLE DISEASES REPORTED IN THE YEARS
1962 AND 1963

	1962	1963
Brucellosis	5	6
Diarrhoea of the newborn	6	10
Diphtheria	10	29
Dysentery:		
(a) Amoebic .....	...	1
(b) Bacillary	262	309
(c) Unspecified	36	5
Encephalitis, infectious .....	...	6
Food poisoning:		
(a) Staphylococcus intoxication	22	...
(b) Salmonella infections	207	115
(c) Unspecified	1	4
Hepatitis, infectious	1,726	1,300
Measles	10,185	8,535
Meningitis, viral or aseptic:		
(a) Due to poliovirus	3	1
(b) Due to Coxsackie	8	13
(c) Due to ECHO virus	2	...
(d) Other and unspecified	40	28
Meningococcal infections	9	12
Paratyphoid fever	8	5
Pemphigus neonatorum .....	...	...
Pertussis	980	954
Poliomyelitis, paralytic	6	2
Psittacosis .....	...	...
Puerperal Pyrexia	13	3
Rocky Mountain spotted fever	1	...
Rubella	797	1,912
Scarlet fever and streptococcal sore throat	1,235	1,153
Tetanus	1	...
Tuberculosis:		
(a) Pulmonary	302	335
(b) Other and unspecified	75	86
Tularaemia .....	...	...
Typhoid fever	8	2

TABLE 3
DEATHS ASCRIBED TO COMMUNICABLE DISEASES FOR THE YEARS 1962 AND 1963

	1962		1963	
	Total Deaths	Rate per 100,000 of population	Total Deaths	Rate per 100,000 of population
Brucellosis	1	0.1	0	0.0
Diarrhoea of the newborn	4	0.3	3	0.2
Diphtheria	0	0.0	3	0.2
Dysentery	2	0.1	0	0.0
Encephalitis	4	0.3	4	0.3
Hepatitis, infectious	5	0.4	10	0.7
Measles	5	0.4	10	0.7
Meningococcal infections	4	0.3	2	0.1
Paratyphoid fever	0	0.0	0	0.0
Pertussis	1	0.1	2	0.1
Poliomyelitis, paralytic	0	0.0	1	0.1
Scarlet fever and streptococcal sore throat	0	0.0	0	0.0
Smallpox	0	0.0	0	0.0
Tuberculosis:				
(a) Pulmonary	24	1.8	30	2.1
(b) Other and unspecified	6	0.4	7	0.5
Typhoid fever	0	0.0	0	0.0

Population of Alberta
in 1962
1,370,000

Population of Alberta
in 1963
1,405,000

TABLE 5—RATES (PER 100,000 POPULATION) BY HEALTH UNIT AND DISEASE, ALBERTA, 1963

[illegible]

TABLE 6.—COMMUNICABLE DISEASE CASES REPORTED IN 1963 BY SEX, AGE AND PERIOD OF REPORTING (Continued)

	SEX		FOUR WEEKLY PERIODS										AGES							Cases In Armed Forces	TOTAL					
	Male	Female	1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	41-44	45-48	49-52	Under 1	1-4	5-9	10-14			15-19	20-39	40-59	60 and Over	Age Not Stated
DIPHTHERIA CARRIER-STATE																										
Edmonton	1	1			2				2										2				1			
Calgary	3				1														1							
Lethbridge																										
Medicine Hat																										
Red Deer																										
Rural	79	87	42	4	67	22	9	1	2		2	1	7	1	8		14	29	68	29	10	11	4	1		
Total	83	88	42	4	70	22	9	3	2		2	1	7	1	8		14	29	71	30	10	12	4	1		
DYSENTERY—AMOEBIC																										
Edmonton																										
Calgary																										
Lethbridge																										
Medicine Hat																										
Red Deer																										
Rural																										
Total	1			1																		1				
DYSENTERY—BACILLARY																										
Edmonton	7		1		1				3																	
Calgary	1	1			1				1	1																
Lethbridge																										
Medicine Hat																										
Red Deer	14	3	2						2	2		3	1	7												
Rural	130	153	9	25	29	27	28	19	12	14	17	16	55	14	18		43	144	23	20	14	22	9	8		
Total	152	157	12	25	31	27	28	19	15	14	21	18	59	15	25		43	150	33	23	16	25	9	10		

DYSENTERY—UNSPECIFIED

[illegible]

ENCEPHALITIS, INFECTIOUS

[illegible]

FOOD POISONING—SALMONELLA INFECTIONS

Edmonton	18	9	2	1	5	2	1	...	9	3	2	1	...	3	7	4	...	2	5	3	...	27
Calgary	15	7	4	1	1	1	2	...	2	3	1	5	...	4	6	5	...	1	1	1	...	22
Lethbridge .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7
Medicine Hat	2	5	1	1	...	1	4	...	4	...	...	...	...	1	1	2	...	1	...	...	...	59
Red Deer	32	27	3	7	3	2	4	1	6	7	3	8	1	2	15	2	...	2	3	14	6	1
Rural .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	67	48	10	10	9	5	8	1	12	18	6	14	2	22	30	13	4	7	20	12	7	115

FOOD POISONING—UNSPECIFIED

[illegible]

TABLE 6—COMMUNICABLE DISEASE CASES REPORTED IN 1963 BY SEX, AGE AND PERIOD OF REPORTING (Continued)

	SEX		FOUR WEEKLY PERIODS												AGES						Cases In Armed Forces	TOTAL				
	Male	Female	1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	41-44	45-48	49-52	Under 1	1-4	5-9	10-14	15-19			20-39	40-59	60 and Over	Age Not Stated
HEPATITIS, INFECTIOUS																										
Edmonton	66	82	11	12	16	12	9	12	9	7	8	10	9	9	24	2	3	33	25	17	60	7	1	...	148	
Calgary	85	83	23	17	17	13	9	4	6	3	10	20	11	18	17	...	9	41	32	7	61	14	4	...	168	
Lethbridge	9	11	1	3	5	6	2	2	1	...	2	...	1	...	...	...	1	5	4	2	8	...	...	...	20
Medicine Hat	8	4	...	...	...	...	3	...	1	...	2	...	3	...	...	...	1	...	3	...	6	2	...	...	12
Red Deer	10	10	1	1	...	1	1	...	1	...	4	4	...	1	7	...	...	3	5	1	8	2	1	...	20
Rural	476	456	68	91	107	100	31	75	53	57	42	75	81	72	80	1	59	209	155	111	296	88	11	2	932	
Total	654	646	104	121	143	131	56	96	70	67	64	109	106	107	126	3	73	291	224	138	439	113	17	2	1,300	
MEASLES																										
Edmonton	650	596	53	77	67	69	107	64	45	45	27	29	33	33	490	37	448	711	37	6	6	1	...	...	1,246
Calgary	1,130	1,069	1,118	491	203	119	62	55	28	17	6	5	13	16	66	81	855	1,150	84	18	10	1	...	...	2,199
Lethbridge	307	270	20	121	195	108	53	60	19	1	...	...	...	...	...	14	232	320	9	...	2	...	...	...	577
Medicine Hat	89	103	71	43	38	17	11	7	...	3	1	...	...	...	...	2	79	103	8	...	...	...	...	...	192
Red Deer	120	126	39	40	26	19	5	...	8	...	...	1	2	31	75	6	71	106	42	18	3	...	...	...	246
Rural	2,084	1,991	595	439	377	404	264	279	255	130	72	113	426	207	514	254	1,469	2,103	214	13	17	2	1	2	4,075	
Total	4,380	4,155	1,896	1,211	906	736	502	465	355	196	106	148	474	395	1,145	394	3,154	4,493	394	55	38	4	1	2	8,535	
MENINGITIS, VIRAL OR ASEPTIC—DUE TO POLIOVIRUS																										
Edmonton	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Calgary	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lethbridge	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Medicine Hat	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
Red Deer	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Rural	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1

RUBELLA

Edmonton	184	201	20	27	14	19	41	86	27	8	13	31	15	33	51	20	86	174	85	8	9	3	385
Calgary	185	190	6	18	21	15	18	12	11	10	13	22	12	39	178	27	60	172	88	15	11	2	375
Lethbridge	13	12	3	1	4	4	6	...	2	...	2	3	1	1	1	2	13	8	1	...	...	...	...	25
Medicine Hat	11	5	2	2	1	3	...	...	2	1	...	2	1	2	6	2	3	8	1	2	...	...	...	16
Red Deer	10	22	2	2	1	1	1	...	2	3	7	2	4	2	6	10	12	10	...	...	...	...	...	32
Rural	465	614	32	25	42	67	41	48	61	67	60	70	186	71	299	107	257	521	127	26	35	2	4	1,079	
Total	868	1,044	65	74	80	108	107	146	105	89	95	130	229	148	536	168	431	893	302	51	56	7	4	1,912	

SCARLET FEVER AND STREPTOCOCCAL SORE THROAT

Edmonton	190	127	45	37	40	25	35	12	8	13	2	10	26	32	32	1	61	80	14	91	4	1	...	317
Calgary	100	114	19	27	38	26	14	6	8	...	1	8	18	25	24	1	46	110	37	16	4	...	...	214
Lethbridge	9	5	2	4	1	3	1	...	...	...	...	1	1	1	...	...	4	4	4	2	...	...	...	14
Medicine Hat	6	2	2	1	2	1	3	...	...	...	...	...	...	...	...	...	3	5	...	...	...	...	...	8
Red Deer	2	4	2	1	1	2	...	...	...	...	1	1	1	16	95	9	141	245	87	23	76	11	1	6
Rural	290	304	71	50	60	46	38	30	26	14	24	17	107	16	95	9	141	245	87	23	76	11	1	594
Total	597	556	139	119	143	101	90	48	42	27	28	37	153	75	151	11	256	448	142	133	145	15	2	1,153

TYPHOID FEVER

Edmonton	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Calgary	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lethbridge	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Medicine Hat	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Red Deer	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Rural	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
Total	...	1	1	1	1	1	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	2

TYPHOID CARRIERS

Edmonton	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1
Calgary	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lethbridge	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Medicine Hat	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Red Deer	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Rural	...	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Total	...	1	1	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	2

DEPARTMENT OF PUBLIC HEALTH

TABLE 7

INCIDENCE OF SOME OF THE MORE SERIOUS COMMUNICABLE DISEASES
FOR THE TEN-YEAR PERIOD, 1954 TO 1963

Date	Population	Total Cases	Total Deaths	Mortality Rate per 100,000 of population
DIPHTHERIA				
1954	1,039,000	35	2	0.2
1955	1,066,000	10	1	0.1
1956	1,123,116	19	0	0.0
1957	1,160,000	39	6	0.5
1958	1,201,000	17	2	0.2
1959	1,243,000	10	0	0.0
1960	1,283,000	12	1	0.1
1961	1,331,944	19	0	0.0
1962	1,370,000	10	0	0.0
1963	1,405,000	29	3	0.2
MEASLES				
1954	1,039,000	3,769	6	0.6
1955	1,066,000	7,136	24	2.3
1956	1,123,116	2,047	2	0.2
1957	1,160,000	12,337	16	1.4
1958	1,201,000	3,383	4	0.3
1959	1,243,000	3,956	3	0.2
1960	1,283,000	9,279	6	0.5
1961	1,331,944	6,309	4	0.3
1962	1,370,000	10,185	5	0.4
1963	1,405,000	8,535	10	0.7
PERTUSSIS				
1954	1,039,000	842	7	0.7
1955	1,066,000	791	1	0.1
1956	1,123,116	547	3	0.3
1957	1,160,000	889	4	0.3
1958	1,201,000	684	2	0.2
1959	1,243,000	657	5	0.4
1960	1,283,000	580	3	0.2
1961	1,331,944	315	1	0.1
1962	1,370,000	980	1	0.1
1963	1,405,000	954	2	0.1
POLIOMYELITIS, PARALYTIC				
1954	1,039,000	221	31	3.0
1955	1,066,000	125	8	0.7
1956	1,123,116	39	3	0.3
1957	1,160,000	34	6	0.5
1958	1,201,000	22	1	0.1
1959	1,243,000	84	13	1.0
1960	1,283,000	201	11	0.9
1961	1,331,944	26	2	0.2
1962	1,370,000	6	0	0.0
1963	1,405,000	2	1	0.1
SCARLET FEVER AND STREPTOCOCCAL SORE THROAT				
1954	1,039,000	1,363	0	0.0
1955	1,066,000	741	1	0.1
1956	1,123,116	642	0	0.0
1957	1,160,000	774	1	0.1
1958	1,201,000	1,062	0	0.0
1959	1,243,000	5,132	5	0.4
1960	1,283,000	4,131	1	0.1
1961	1,331,944	1,673	2	0.2
1962	1,370,000	1,235	0	0.0
1963	1,405,000	1,153	0	0.0
TYPHOID FEVER				
1954	1,039,000	5	1	0.1
1955	1,066,000	8	2	0.2
1956	1,123,116	22	1	0.1
1957	1,160,000	16	2	0.2
1958	1,201,000	6	0	0.0
1959	1,243,000	13	0	0.0
1960	1,283,000	3	0	0.0
1961	1,331,944	16	0	0.0
1962	1,370,000	8	0	0.0
1963	1,405,000	2	0	0.0

HEALTH UNITS

E. S. O. Smith, M.A., M.B., B.Chir., D.P.H., D.I.H., Director

Except in Edmonton and Calgary, whose City Health Departments form part of their respective civic administrations, local health services in Alberta are provided for the most part by Health Units, which have become established over the years through the voluntary grouping together of neighboring municipalities, and which are administered by Boards composed of councillors from the largest municipalities in each group.

The services provided by a Health Unit are essentially of a preventive character, and include the control of communicable diseases, the distribution of biologicals, the local control of tuberculosis, maternal and child health programs, school health services, health education and mental health programs, and a sanitary inspection service. Some Health Units also provide a full-time or part-time dental service.

In 1963 The Health Unit Act was amended to provide for:

- (1) An increase in the grant for dental services to Health Units authorized to employ one or more Dental Auxiliaries;
- (2) Extra financial assistance for Health Units faced with expenses beyond their monetary resources;
- (3) Agreements between Health Unit Boards and Indian and Northern Health Services for the extension of Health Unit services to Indian reservations.

In connection with the first of these provisions, 1963 was notable for the graduation of the first class of Dental Auxiliaries from the recently established two-year course in dental hygiene at the University of Alberta. Most of the new graduates found employment in Health Units, whose ability to provide a dental health service in rural areas was thereby considerably enhanced.

During 1963 there were 24 Health Units serving a combined population of 737,909, or approximately 91.6 percent of the people residing outside of the two principal cities. The following is a list of these Health Units showing for each one the location of its headquarters, the population figure upon which its grant from the Department was based for the fiscal year beginning the 1st April 1963, its approximate area and its population density:

Name of Health Unit	Headquarters	Population	Area in Square Miles	Population Density
Alberta East Central	Stettler	49,514	7,300	6.78
Athabasca	Athabasca	21,004	8,500	2.47
Banff National Park	Banff	4,101	2,600	1.18
Barons-Eureka	Coaldale	28,126	3,000	9.98
Big Country	Hanna	13,913	8,400	1.65
Chinook	Fort Macleod	22,708	4,000	5.67
City of Lethbridge	Lethbridge	35,722	12	2,977
Drumheller	Drumheller	28,711	4,200	6.84
Edson	Edson	23,148	10,100	2.29
Foothills	High River	23,164	3,800	6.10
Grande Prairie	Grande Prairie	32,942	19,000	1.73
Jasper National Park	Jasper	2,902	4,200	0.55
Jasper Place	Jasper Place	32,160	6.5	4,948
Leduc-Strathcona	Edmonton	30,991	1,900	16.31
Medicine Hat	Medicine Hat	48,872	9,300	5.25
Minburn-Vermilion	Vermilion	29,483	5,000	5.90
Mount View	Calgary	45,986	4,700	9.78
North Eastern Alberta	St. Paul	34,390	6,000	5.73
Peace River	Peace River	33,381	27,400	1.22
Red Deer	Red Deer	63,664	4,500	14.15
Stony Plain-Lac Ste. Anne	Stony Plain	24,996	4,300	5.80
Sturgeon	St. Albert	49,504	3,700	13.37
Vegreville	Vegreville	29,920	3,700	8.09
Wetoka	Wetaskiwin	28,607	3,100	9.24

The categories of staff required to implement Health Unit services, and the number of positions in each category established by the end of 1963, with corresponding figures for the five preceding years, are shown in the following table:

Category of Staff	1963	1962	1961	1960	1959	1958
Medical Officers	24	24	24	24	23	21
Dental Officers	12	9	8	7	3	3
Public Health Nurses	143	138	135	130	120	108
Sanitary Inspectors	34	34	34	32	31	28
Dental Auxiliaries	14	.....	.....	.....	.....	.....
Dental Assistants	7	7	7	6	3	3
Stenographer-Technicians	55	52	51	47	42	32
Secretary-Treasurers	24	24	24	24	23	21

Six new Medical Officers of Health were appointed to Health Units during the year, and a period of orientation was arranged for those who required it. One other opening for a Medical Officer was filled by inter-unit transfer. Several part-time Dental Consultants (not shown in the table above) were appointed to supervise the work of Dental Auxiliaries in Health Units which had previously had no regular dental service. One Dental Officer was awarded a professional training grant to enable him to take the D.D.P.H. course at the University of Toronto.

In his capacity as consultant to Health Unit Boards and Medical Officers of Health, the Director of Local Health Services made 46 visits during the year to 17 different Health Units, usually in response to specific invitations. He also visited the Cardston-Warner area in order to discuss with municipal councils the feasibility of forming a new Health Unit.

Each Health Unit was invited to send its Chairman or one of its Board Members, its Secretary-Treasurer, and its Medical Officer of Health or Senior Nurse, as delegates to the annual Health Unit Conference which was held in the Department from the 12th to the 15th November 1963. Resolutions bearing upon both technical and administrative problems were submitted for the Minister's consideration, and some of these were referred for the attention of the Provincial Board of Health.

PUBLIC HEALTH NURSING

Janet C. Bailey, D.P.H.N., R.N., Director

The public health nursing branch has continued to operate within the Division of Local Health Services with the main responsibilities being the provision of consultant service in public health nursing to Health Unit personnel and the administration of the Municipal Nursing Service.

The appointment of Mrs. T. B. Ebert as Nursing Consultant in February, 1963, made it possible to continue programs in maternal and child health that had been temporarily interrupted when the position was vacant for eleven months.

PUBLIC HEALTH NURSING

The number of public health nurses employed by official health agencies throughout Alberta has increased steadily as the population of the Province has increased. In 1963 there was an increase of 36 positions or 14.8%, while the provincial population increased 29,840 or 2.3%.

The proportion of qualified public health nurses employed by all official agencies decreased from 56.6% to 51.8% during the year. The reduction was greatest in health units where there were 10% fewer qualified public health nurses employed, although the total number of nurses employed by them increased by 12%. The reduced number of professional training grants available for public health nurses in the past few years may account in part for the decrease. Another contributing factor may be that official health agencies in adjacent provinces pay higher salaries to qualified public health nurses. Also, some hospitals employ public health nurses for their clinical positions, thus reducing the number available for public health positions. Some health units have experienced few changes in their nursing staffs but others have had to face a turn-over of from 50 to 80%.

TABLE I
DISTRIBUTION OF NURSES EMPLOYED IN HEALTH UNITS, MUNICIPAL NURSING SERVICE, AND CITY HEALTH DEPARTMENTS IN RELATION TO BASIC QUALIFICATIONS

Service	With Public Health Preparation				Without Public Health Preparation				Total	
	Number		Percentage		Number		Percentage			
	1963	1962	1963	1962	1963	1962	1963	1962	1963	1962
Health Units	63	69	45	55.2	77	56	55	44.8	140	125
Municipal Nurses	4	4	28.6	30.8	10	9	71.4	69.2	14	13
City of Edmonton	26	23	38.8	37.1	41	39	61.2	62.9	67	62
City of Calgary	56	43	94.9	97.7	3	1	5.1	2.3	59	44
Total	149	139	51.8	56.6	131	105	48.2	43.4	280	244

TABLE II

DISTRIBUTION OF NURSES IN RELATION TO POPULATION, AREA AND POPULATION DENSITY IN HEALTH UNITS AND CITY HEALTH DEPARTMENTS ARRANGED IN ASCENDING ORDER OF POPULATION SIZE

HEALTH UNITS	Population	Area in Square Miles	Population Density	No. Health Unit Nurses		Number of Municipal Nurses	Nurse-Population Ratio
				Senior	Staff		
Jasper National Park	2,902	4,200	0.69	..	1†	..	1:2,902
Banff National Park	4,101	2,600	1.58	..	1†	..	1:4,101
Big Country	13,806	8,400	1.64	..	3	..	1:4,602
Athabasca	21,137	8,500	2.49	1	5	3	1:3,177*
Chinook	22,825	4,000	5.71	..	3	..	1:7,608
Edson	23,300	10,100	2.31	1	4	1	1:4,300*
Foothills	23,362	3,800	6.15	1	3	..	1:5,840
Stony Plain-Lac Ste. Anne	25,423	4,300	5.91	1	3	..	1:6,356
Barons-Eureka	28,179	3,000	9.39	1	6	..	1:4,694
Drumheller	28,894	4,200	6.88	..	6	..	1:4,816
Wetoka	29,227	3,100	9.44	..	5	..	1:5,845
Minburn-Vermilion	29,513	5,000	5.90	1	4	..	1:5,902
Vegreville	30,361	3,700	8.21	1	5	..	1:5,060
Leduc-Strathcona	31,522	1,900	16.59	1	6	..	1:5,254
Grande Prairie	34,054	19,000	1.79	1	6	4	1:4,865*
Peace River	34,198	27,400	1.25	1	6	4	1:4,405*
Jasper Place	35,478	8.5	4,174	1	6	..	1:5,068
City of Lethbridge	36,257	12	3,021	1	6	..	1:5,179
North Eastern Alberta ..	36,874	6,000	6.15	1	6	..	1:5,267
Mount View	41,267	4,700	8.78	1	5	..	1:6,876
Medicine Hat	49,560	9,300	5.33	1	9	..	1:4,956
Alberta East Central	50,511	7,300	6.91	..	8	..	1:6,314
Sturgeon	52,093	3,700	14.08	1	7	..	1:6,512
Red Deer	66,343	4,500	14.74	1	10	..	1:6,031
	751,187						
CITIES				Dir. Sup.			
Calgary	276,975	78	3,551	1	5	53	1:4,694
Edmonton	303,756	69	4,504	1	7	59	1:4,534
Total Population	1,331,918						

†Part Time.

*NOTE: In areas where there are municipal nurses, the population in the districts served by them has been deducted before determining the nurse:population ratio of the health unit nurses.

SENIOR NURSES' WORKSHOP

In September a three-day workshop was held for senior public health nurses. The main topics considered by the group were orientation programs for new nursing staff, prenatal teaching methods, the responsibilities of a supervisor, evaluation of public health nursing personnel and public health nursing programs. The assistance of Miss M. Campbell, Associate Professor of Nursing, University of Alberta, who gave the keynote address and acted as a consultant during the workshop, was much appreciated. The final evaluations of the workshop given by those attending showed that the workshop was a success and strong recommendations were made that they be held annually.

MUNICIPAL NURSING SERVICE

During 1963 the Municipal Nursing Service operated in fifteen centres. There has been a steady decrease in this number since the years of World War II, when at the peak there were forty-eight operating at one time. Although medical and hospital facilities are now much more plentiful and transportation has improved, there is a continuing need

for some services. Thirteen of the centres presently operating are located in the northern part of the Province and, in most instances, medical and hospital facilities are remote and transportation is often difficult much of the year. All services are kept under close observation so that when facilities are developed and roads are sufficiently developed to permit patients to seek medical care without long delay, the minor and emergency services provided by municipal nurses are withdrawn. Whenever a service is closed, the public health services are continued without interruption by the staff of the health unit in which the nursing service was located.

The staff of the Municipal Nursing Service remains comparatively stable. In the fall, we were all saddened by the sudden death of Mrs. Betty Peterson of Bonanza. Two areas, Tangent-Eaglesham and Swan Hills, were without staff all year. When a vacancy occurs on the Municipal Nursing Staff, recruitment of a suitable replacement is very difficult. Although every effort is made to provide good living accommodation in each centre and the salary schedule followed is slightly higher, very few nurses are willing to live in remote communities and accept the heavy professional responsibilities.

It was necessary to postpone the annual conference for the Municipal Nursing Service, which is usually planned for the fall, until early in January, 1964.

The Atikameg-Gift Lake Contract Nursing Service was formally established in April. For some years a nursing service had been operating under the auspices of St. Benedict Mission with support from the Department of Public Welfare and Indian and Northern Health Services. The new service is now operating four days each week under the same administration as the other municipal nursing services for minor and emergency care. The Atikameg Indian Reserve is located sixty-four miles north east of High Prairie and Gift Lake is a Metis Colony situated ten miles west. We are most appreciative of the accommodation for our nursing service provided in the new schools in both centres through courtesy of the Northland School Division. As this area lies within the boundaries of the Peace River Health Unit, the public health services continue under their direction.

For several years a nursing service was provided for the Paddle Prairie Metis Colony by the Metis Rehabilitation Branch, Department of Public Welfare. This service was taken over on April 1st as part of the Municipal Nursing Service and the area served was extended north along the Mackenzie Highway to the town of High Level and east as far as North Fort Vermilion. At the same time the boundaries of the La Crete Municipal Nursing Service were extended to include the town of Fort Vermilion. Due to the steady increase in the population of these communities there is an increasing need for the health services to be expanded to include all the services given by a health unit.

A report of the immunization, child health conferences and school health and other public health programs is not included here as the major part of this work is reported with the statistics included in the Annual Reports of the Health Units in which all but four of the Municipal Nursing Services are located.

TABLE III
SUMMARY OF MINOR AND EMERGENCY TREATMENT SERVICES
BY MUNICIPAL NURSES

Age Group	Office		Home	
	1963	1962	1963	1962
Infant	1,295	1,401	239	229
Pre-school	2,776	2,613	424	375
School	3,530	3,723	421	488
Adult	7,959	7,394	634	580
Older Age Group	835	715	482	362
Totals	16,395	15,846	2,200	2,034

During 1963 the total number of patients referred to doctor or hospital was 1,731 as compared to 1,912 in 1962. Included in this total were 805 accidents and 26 home deliveries.

FIELD TRIPS TO HEALTH UNITS AND MUNICIPAL NURSING SERVICES

During the year many units were visited by either the Nursing Consultant or Director to review and assist with the public health nursing programs. Some of the visits were very brief and were requested for a specific purpose, whereas others were of two or three days' duration so that there were opportunities to review individual programs and record systems. For some time the need to extend and develop the nursing consultant service has been recognized. Therefore we welcomed the recommendation put forth in the *Report of the Nursing Education Survey Committee that the Nursing Section be expanded to include at least three additional nursing consultant positions. With clearly defined duties, these consultants could render much help in up-grading the public health nursing service available in some areas. ***"Public health nursing services do not just happen. They must be carefully planned and directed by knowledgeable, practical, wise, progressive and flexible people who are capable of gearing the programme to the needs of society and who have the courage, foresight and authority to modify it in the light of current social developments." Should it be found possible to increase the nursing consultant service to the public health nurses in the field, we could then look for a steady improvement in the service offered and greater job satisfaction for the staff.

FEDERAL-PROVINCIAL PUBLIC HEALTH NURSING DIRECTORS' CONFERENCE

The second conference of this kind was held in Ottawa in January, 1963. It was a privilege to be able to attend. Ample opportunity was provided for group discussion of mutual responsibilities and to give consideration to the development of sound public health nursing practices. The meeting was called by the Chief Nursing Consultant of the Department of National Health and Welfare, Miss Dorothy Percy, and was attended by Directors of Public Health Nursing from nine provinces and by seven nursing consultants of the Department of National Health and Welfare. It is planned that this type of conference will be held every two years.

Nursing Education Survey Committee Report

*p. 140

**p. 129

MATERNAL AND CHILD HEALTH

T. Beryl Ebert, B.Sc., R.N., Nursing Consultant

The functions of Nursing Consultant in Maternal and Child Health were partially covered by the Director of Public Health Nursing until the appointment of a new nursing consultant in February. In order to familiarize her with present programs a planned orientation course was carried through. Visits to Ottawa, Toronto and various centres in British Columbia to observe public health nursing programs were followed by visits to eleven Health Units in Alberta.

The consultant is responsible for stimulating the development of comprehensive programs for improving the quality of service on a province-wide basis for the care of mothers and children. This includes working with both public health and hospital personnel and aims at co-ordination of these services by helping to improve working relationships between the hospital and public health nurses. This is done by the promotion of joint activities such as prenatal classes and improved referral of patients to permit continuity of care from the hospital to the home and vice versa.

The main emphasis to date has been on public health nursing programs.

SERVICE TO HEALTH UNITS

Assistance was offered to eleven Health Units in the areas of prenatal teaching, home visiting, child health conferences, school programs, and in general nursing programs. Talks were given at staff meetings and many field trips made with individual nurses for home visiting, school work and child health conferences.

In order to standardize to some extent the content of prenatal classes and to assist public health nurses in organizing and preparing classes, a Guide to Prenatal Teaching was prepared and distributed to all Health Units, Municipal Nurses, and City Health Departments.

Preliminary plans have been made to conduct an institute on prenatal teaching, under the Dominion Provincial Maternal and Child Health grant, to be held in 1964.

During visits to Health Units many of the local hospitals have been visited and discussions held with the staff. Public health nurses are encouraged to make routine weekly visits to local hospitals, particularly to visit postpartum patients. In some areas hospitals participate in giving prenatal classes.

A form for referral of patients to the Out-patients' Department of the University Hospital has been distributed to five Health Units surrounding Edmonton, as a pilot project. It is hoped to encourage a freer flow of information concerning the patient from Health Unit to hospital, and hospital to Health Unit.

LECTURES AND MEETINGS

The nursing consultant has given lectures, usually on maternal and child health services, to the following groups.

The Dental Auxiliaries

Emergency Health Services Nursing Course

Advanced Obstetrics student at the University of Alberta

Postgraduate Premature Nursing short course at the
University of Alberta

Public Health Nursing students at the University of Alberta

Senior Nurses' Workshop

Health Unit staff meetings

The Hospital Administrators of northern Alberta

One series of evening prenatal classes for both parents was given in co-operation with the District Supervisor, Victorian Order of Nurses, at the College of Physicians and Surgeons Building. This was a pilot project to determine the interest in and need for such classes. There appears to be a definite need for prenatal classes which working mothers and fathers can attend.

The nursing consultant is a member of the Poison Control Committee, under the chairmanship of Dr. K. Martin, Professor of Paediatrics, University of Alberta. As a preliminary to a health education campaign to prevent poisoning accidents in children the nursing consultant sent questionnaires to five Health Units surrounding Edmonton. These questionnaires were designed to ascertain poison hazards for children in the home. The information is obtained during the public health nurse's routine home visits.

The nursing consultant attended the Emergency Health Services course in Arnprior, Ontario, the annual convention of the Alberta Division of the Canadian Public Health Association, and the Alberta Association of Registered Nurses annual convention.

Meetings of the Alberta Perinatal Mortality Committee have been attended, and one meeting of the Health Advisory Committee for schools.

The nursing consultant was privileged to attend the annual meeting of the Maternal and Child Health Advisory Committee in Ottawa, as provincial representative. Many subjects of common interest to all provinces were discussed, and planning for future projects started.

DENTAL PUBLIC HEALTH

A. T. Salter, D.M.D., D.D.P.H., Director

The dental public health problem in Canada today has been outlined in the "Brief Submitted to the Royal Commission on Health Services by the Canadian Dental Association", 1962 as follows:

"The unnecessary tragedy of dental diseases is one of Canada's gravest health problems. Dental diseases are largely preventable; yet they are virtually universal. Almost everyone needs dental care; yet in any given year only one-third of the population visits a dentist. By their very nature, dental diseases defy defeat without widespread application of preventive measures."

The Government of Alberta was aware of these facts before 1962, and in 1959 a Dental Public Health Branch was inaugurated into the Division of Local Health Services with the appointment of a Director of Dental Public Health on a part-time basis in August of that year. A full-time Director was appointed in November, 1963.

The functions of this branch are:

- (1) On behalf of the Department, to encourage, provide financial aid and assist with the planning, organizing and maintaining of a comprehensive dental public health program in all local Health Units and City Health Departments throughout the Province.
- (2) To advise and deal with matters pertaining to dental public health and other allied health professions and other groups or individuals in matters related to dental health.

The activities of the Department of Public Health in the field of dental public health may be considered under the following headings:

(A) PREVENTIVE DENTAL PUBLIC HEALTH PROGRAMS

To encourage and aid Health Units to provide preventive dental programs, the Department makes available to all Health Units a supplemental dental health grant equivalent to one-fifth of the Health Unit's general health services block grant. This grant must be matched by two-thirds of its amount, any amount spent over this basic budget must be contributed locally, and where the employment of one or more registered dental auxiliaries is authorized by the Minister of Health, a further grant up to ten percent of the Health Unit's general health services block grant is made available, provided that the total grant shall not exceed sixty percent of the total expenditures for dental services. The programs are basically preventive and educational in nature providing for statistical surveys, dental health education, examination and referral, consultation, prophylaxis, topical fluoride treatment and varying degrees of actual dental care to limited age groups depending upon local circumstances. The rendering of emergency dental treatment is also given to school children and upon occasion to adults in need of immediate relief from pain and/or infection in the oral cavity.

Eighteen of the twenty-four local Health Units operated a dental health program in 1963. Eight employed the services of a Dental Officer on a full-time basis. One of these Dental Officers successfully completed the dental public health course at the University of Toronto in June, 1963, and another Dental Officer will receive his diploma in June, 1964. Eight Health Units of the eighteen were served on a continuous part-time basis by local practising dentists and two Health Units employed

a local dentist on a half-time basis. Jasper National Park and Minburn-Vermilion utilized the services of third-year dental students during their summer programs which proved most successful.

(B) VOLUNTEER PRIVATE PRACTICE PROGRAMS IN OUTLYING AREAS

One of the dental health problems in Alberta is the inequitable distribution of dental services between the urban and rural areas, at the expense of the outlying districts of the Province. The Department of Public Health in conjunction and with the full support of the Alberta Dental Association provided upon request to areas, in which no dental services were available, fifteen clinics for dental services during 1963. These services were rendered by ten roster dentists registered with the Alberta Dental Association and the clinics were held for periods of one to three weeks on a private practice basis. The community seeking the request for a dentist is responsible for providing office facilities, and is expected to arrange personal accommodation for the visiting dentist, to publicize the time and place of the program, and to arrange for the services of a local volunteer to assist the dentist in booking advance appointments and with routine office procedures. The patient receiving the service is responsible for making his appointment, for the type of service he wishes to receive, and for payment of that service to the dentist.

The Alberta Dental Association arranges for dentists from urban centers to visit these communities as these programs are requested. The dentists participate in this program on a voluntary basis, sometimes at personal sacrifice to themselves and their private practices.

The Department of Public Health provides transportable dental equipment units and a travel grant to the participating dentist. The Department and local Health Unit personnel serve as a liaison between the local districts and the Dental Association. This program demonstrates the advantages of understanding and co-operation between Government and the profession and the people in a concerted approach to a mutual problem.

(C) EDUCATION

This Department, through Health Education Services, made available and distributed, upon request, dental health education material including posters, pamphlets, booklets, films and film strips to the Health Units, teaching professions, professional groups, committee groups and interested individuals. It is interesting to observe that the requests from private and laymen groups make up the bulk of these requests for educational aids materials.

The Department of Health makes available Federal Professional Training Grants on the recommendation of the Deputy Minister of Health. These grants are made available to dentists in public health services and to students enrolled in the dental auxiliary course, Faculty of Dentistry, University of Alberta. Two Dental Officers will be completing the course in June, 1964.

(D) DENTAL AUXILIARY PERSONNEL

On April 11th, 1960, an Act respecting Dental Auxiliaries was assented to by the Legislative Assembly of the Province of Alberta. Now, for the first time in dental history, a dental public health auxiliary is being trained. The University of Alberta course is essentially that of a dental hygienist, trained in clinical operative procedures with the clinical point of view, but with this important difference—dentistry is

approached from the public health point of view and should result in a dental auxiliary not only capable and interested in community health matters, but fully aware of this vital though neglected field. To ensure a continuous flow of graduates the students are completely subsidized for the two years of training. At the end of the training period, they must serve for two years in areas designated by the Department of Public Health. They are then free to work in the field of public health anywhere in the Province. With such personnel available in adequate numbers, it will finally be practical for dental public health officers to develop a comprehensive, effective and practical dental public health program at a reasonable cost.

Nineteen girls were enrolled during 1961 for the dental auxiliary course and eighteen graduated in June, 1963. Fourteen of these dental auxiliaries are employed by eleven Health Units and the Edmonton and Calgary School Dental Health Services programs employing two each.

The 1962 enrollment was eighteen and these girls will graduate in June, 1964. A class of twelve is to be graduated in June, 1965.

The Dental Auxiliary Committee has completed its responsibilities to date and arrangements for the placement of the graduating class of eighteen dental auxiliaries in June is progressing favourably.

An Act respecting Dental Technicians was assented to on April 12th, 1961. This Act was drafted by the Department of Health, with the assistance and guidance of the dental profession and dental laboratory technicians, to give recognition to and provide means for standardizing and up-grading of registered dental technicians. Fifty-two technicians registered under the Act for 1963.

The Northern Alberta Institute of Technology, Edmonton, Alberta, accepted 12 registrations for the first class in the two-year course of instruction for dental technicians on September 17th, 1963.

The first class for the dental assistant course was accepted on September 3rd, 1963, for registration at the Northern Alberta Institute of Technology; twenty-eight dental assistants are expected to successfully complete the course in June, 1964. The Institute has to date thirty-nine applicants for the 1964-65 dental assistant course.

In the Province of Alberta there are 466 registered dentists giving a dentist to population ratio of 1:2725 which is comparable to the national average of 1:3000 population. The University of Alberta graduated a class of 31 in 1963 and has a potential graduating class of 41 for June, 1964.

The Annual Health Unit Conference was held in Edmonton, November 13th, 14th and 15th and was attended by thirteen Dental Officers. It was felt by the Dental Officers present that this type of meeting was most beneficial to all and that future combined meetings with the Medical Officers of Health should be encouraged and strived for during future conferences and that a unit conference be established as an annual affair.

The fluoridation status in Alberta at the end of 1963: Five successful plebiscites were held out of a total of eight during the year, although each of those defeated received more than a fifty percent favourable vote for fluoridation. The present standing is thirteen areas fluoridating their water supplies and five communities awaiting the installation of the necessary equipment which will result in a total population in Alberta of over 70,000 receiving the benefits of communal water fluoridation.

On the basis of preliminary testing to date, it is estimated that an additional 50,000 Alberta residents have fluoride naturally present in their water supplies in quantities of 0.7 parts per million or more.

HEALTH EDUCATION SERVICES

J. C. MacNeill, B.Sc., M.P.H., Director

The new Director of Public Health Education assumed his duties on March 25th, 1963. A large part of the year was spent in familiarizing the Director with the policies and practices of the Department and the Division of Local Health Services along with the duties and responsibilities of the position.

As in the past, public health education continues to serve as a catalyst in the evolution of a social awareness within the field of public health. In addition, it makes a worthwhile contribution towards facilitating desirable human behavior change as it relates to sound health attitudes, habits and practices.

The Branch provides a consultative and advisory service in the planning and implementing of public health education programs. The service is available to other Government Departments, Divisions within the Department of Public Health, local Health Units, City Health Departments, voluntary health agencies, interested individuals and community groups. In practice the service involves activities in two broad areas—firstly, working with people on an individual and group basis; and secondly, the selection of appropriate media of communications.

Contact with people on an individual and group basis occurred during conference and committee sessions. The prime purpose was usually to explore ways of enriching existing or proposed programs with health oriented content. The Branch prepared and presented information on a variety of health education topics to the following groups. These included the Alberta Film Conference, Canadian Mental Health Association (Alberta Division) Conference on Rehabilitation and After-Care, Edmonton Welfare Council seminar on "Insights Into Cultural Differences", Senior Nurses' Workshop, Annual Municipal Nurses' Conference, and the orientation of Dental Auxiliary students from the University of Alberta. The Branch was represented on the Poison Control Advisory Committee, the Health Advisory Committee to the Department of Education, the Advisory Committee to the Director of Nursing Recruitment, and the Junior-Senior High School Health Subcommittee.

In addition, the Branch lectured to students at the University of Alberta, attended and participated in local Health Unit staff conferences at Jasper Place, Vegreville and Wetaskiwin, presented a talk during a meeting of the Northern Alberta Section of Public Health Inspectors and became involved in the orientation of new Medical Officers of Health, Public Health Nurses and Municipal Nurses.

Finally, the Director attended and participated in the National Conference on Smoking and Health convened by the Minister of National Health and Welfare in Ottawa, November 25th-26th. The conference delegates recommended the formation of a Technical Advisory Committee on Health Education concerning Smoking and Health. The Director was named to this committee as a representative of the Department.

The school health program moved ahead with increased emphasis on the display of new and revised health education materials at Teachers' Conventions. Teachers throughout the Province expressed a great deal of interest and welcomed the return of this program after an absence due to staff limitations. The Branch was represented at Teachers' Conventions in Edmonton, Calgary, Coronation, Red Deer and Vermilion. In all cases local Health Unit personnel in the immediate area were encouraged to take an active part in the above conventions, and all others that occurred throughout the Province.

With regard to the media of health publications, one major policy change took effect on October 1st. This involved a revised method of acknowledging requests for health publications from individuals and community groups. Mail requests directed to the Branch are now referred to the appropriate local health authority for attention. The intention is to create a more personalized community health service by the staffs of local health agencies. In addition, local health agencies have been requested to order health publications from the Branch on a quarterly basis. Initial reaction to the above proposal from local health agencies has been favorable and reports indicate that local health personnel appreciate this opportunity of providing an additional community service.

Departmental press releases were prepared on National Health Week, National Immunization Week, the Solar Eclipse and the Canadian Medical Association TV Series — Check-Up. Two editions of the newly created Divisional Newsletter were prepared and distributed to personnel in local Health Units and City Health Departments.

Health films continued to play an important role as an informational media. They were sent out in response to requests from schools, local Health Units, City Health Departments, interested individuals and community groups both public and professional. An estimate indicates that films in the Branch library were shown about 3,864 times to a possible audience of 111,226. Twenty-seven films were added to the library during the year. The Branch library expanded to a total of eight-six books. Each Division is responsible for the maintenance of their own particular volumes. As usual, all books and films were ordered by the Branch and purchased through the National Health Grants. The Branch ordered and distributed approximately 250 copies of the 1961 Annual Report of the Department.

At the request of the Division of Sanitary Engineering, the Branch prepared a pamphlet entitled "Tips to Follow When Planning Your Domestic Water and Sewage Systems". In addition, the Branch made arrangements for the revision and ordering of the Departmental booklets entitled "Alberta's Health Services Program, 1963", "Mental Health Services", "Alberta Guidance Clinics", "Your Health Unit" and the "Communicable Disease Chart".

Following preliminary inquiries, the Branch obtained the interest and cooperation of Welcome Wagon hostesses throughout the Province in distributing selected health publications during their visits to newcomers and mothers of first born infants. The two publications the

hostesses request most frequently are "Alberta's Health Services Program, 1963" and "Your Health Unit". The hostesses have been asked to contact the local health agency in their respective areas for additional copies of these publications when the need arises.

Finally, as part of the orientation of the Directors, contact was made with the following agencies to discuss their work. These included the Alberta Tuberculosis Association, Workmen's Compensation Board (Accident Prevention Department), Publicity Branch (Department of Industry and Development), Publicity Officer (Department of Lands and Forests), Alberta Safety Council, Canadian Mental Health Association (Provincial and Edmonton Branches), Edmonton Welfare Council, Canadian Cancer Society (Edmonton Branch), City of Edmonton Health Department, City of Calgary Health Department, National Film Board, Victorian Order of Nurses and Red Cross Society.

NUTRITION SERVICES

Elva M. Perdue, B.Sc. (H.Ec.), B.Ed., Nutritionist

The overall policy governing nutrition activities in Alberta has changed very little since the service was established. Organized at a professional level, its primary aim has been to keep allied professions informed about nutrition. This past year has been no exception. In 1963 the program of Nutrition Services continued to be directed toward meeting the needs of public health personnel, government departments, institutions, schools and lay groups for consultant and direct service on all matters related to nutrition.

Consultant Service to Local Public Health Personnel

During home and school visits, clinics, and conferences, the public health field staff give advice concerning the wise selection and use of foods for the promotion of health. Problems such as those related to low-cost meal planning, school lunch programs, and prenatal and infant diets are encountered. Nutrition may also have to be considered in dealing with other health problems in the community. Consequently, the purpose of the nutrition consultant program to local health services is to provide both technical data and direct assistance to the field staff in order that they may deal most effectively with such problems. An important means of providing assistance is through visits to the health units. During 1963 the nutrition consultant was able to spend time in 6 health units in the Province. These visits were arranged to coincide with the monthly staff meeting of the health unit personnel and frequently members of other agencies in the community such as the Victorian Order of Nurses, also attended. At these conferences, the nutritionist dealt with problems and questions from the field staff, reported on new developments in the field of nutrition and discussed their application in the local health program. The remainder of the time in each health unit was spent in giving consultant service to individual public health nurses, many of whom have requested direction during the year in the analysis of specific nutrition problems.

In addition to field trips and conferences, a number of requests and problems from public health personnel, Victorian Order of Nurses and nurses from industry have been dealt with by telephone, through correspondence and in articles in the nine issues of the mimeographed release, *Nutritionally Speaking*. This release with a mailing list of 500 is distributed to health and home economics teachers, volunteer agencies and public health personnel.

The following will serve as examples of the type of problem dealt with on request during the year:

- (1) Analysis of individual diet records where studies have been conducted to assess food habits.
- (2) Specific recommendations where problems of food selections were influenced by such conditions as reduced income, long-term illness and other disabilities.
- (3) Interpretation of special diets prescribed by a physician and the preparation of menu patterns and recipes for a particular diet.

- (4) Evaluation and distribution of new nutrition materials.
- (5) Preparation of menu guides and quantity recipes where a school lunch program was planned or in operation.

This year the nutritionist also had an opportunity of working with the dental auxiliaries employed in the health units. Specific problems were discussed and recommendations made as to nutrition films, publications, posters and other teaching aids which would be useful in the dental education programs.

As in previous years, the nutritionist was responsible for part of the orientation of medical officers of health, municipal nurses and some health unit nurses coming on staff. This includes a discussion of the ways in which public health personnel can use the services of the nutritionist and a review of materials and teaching aids that are available for distribution and on loan. In 1963 there were 71 loans to professional personnel and 32 to the general public of the library books, reference materials and nutrition teaching aids such as exhibits and food models.

The program for consultant service to field service staff is planned under the direction of the Director of Local Health Services and in close cooperation with the Directors of Health Education, Public Health Nursing, Dental Health and the Nursing Consultant in Maternal and Child Health.

The nutritionist was again available to assist professional personnel in all Divisions of the Department with problems relating to nutrition, some of which have entailed considerable research in technical journals.

Consultant Service to Other Departments and Organizations

Throughout the year Nutrition Services has received the closest cooperation from other departments concerned in any way with nutrition activities or problems. This has provided an opportunity for a review of programs and has facilitated joint planning in meeting mutual problems.

The nutritionist continued to cooperate with Provincial Departments of Agriculture, Welfare and Education and with the Federal Government Departments of Agriculture, Fisheries and National Health and Welfare, in an exchange of information, ideas and materials. At the request of the Alberta Department of Welfare, the nutritionist continued to serve on a committee with the Supervisor of Women's Extension Services of the Provincial Department of Agriculture to revise the standards used in the food allowance scales for welfare assistance. The Department of Welfare also requested publications for use in in-service training programs.

At the request of the Director of Vocational Education of the Alberta Department of Education, the nutritionist served on an advisory committee for the proposed course for Dietary Aides. Consultant service on matters concerning nutrition education in schools and the evaluation and revision of pamphlets has also been provided for the Supervisor of Home Economics in the Alberta Department of Education.

While the regional dietitian with Medical Services of the Department of National Health and Welfare was absent on educational leave, the provincial nutritionist assisted their field staff with projects at the Indian reservation in Winterburn and the residential school in St. Albert.

In September, the nutritionist travelled to Ottawa to attend the meeting of the Dominion-Provincial Nutrition Committee and a two-day workshop on "Communication in Nutrition Education", sponsored by the Nutrition Division of the Department of National Health and Welfare. These opportunities provided valuable information and were refreshing from a professional point of view. The highlights of the meeting and the workshop were presented by the nutritionist to the District Home Economists of the Alberta Department of Agriculture at their fall conference.

An active rapport was also maintained with personnel from non-official agencies. The nutritionist worked with the western diet counsellor of the Canadian Diabetic Association and with the nutritionist with the Milk Foundation of Edmonton in the promotion of mutual aims and the solution of problems.

Consultation Service to Institutions

This service continues to expand. Assistance with food selection and preparation, menu planning, quantity recipes and special diets has been given to a total of 31 institutions, including senior citizens' homes, child care institutions and nursing homes. At the request of the Associated Hospitals of Alberta, similar assistance was also provided to six municipal hospitals. Standardized quantity recipes, prepared by the Federal Nutrition Division, were again made available quarterly to smaller homes and institutions in the Province, as well as to the Associated Hospitals of Alberta for distribution to its members. Consultant service was continued to the Alberta School For The Deaf and the Provincial Mental Hospital in Ponoka, where a total of 19 days was spent in the dietary department of the latter.

Service in the Field of Education

Again this year, instruction for professional trainees at the university level and assistance to schools accounted for many hours of the nutritionist's time.

The nutritionists participated in pre-service training programs for allied professional groups at the University of Alberta in Edmonton. The objectives and activities of Nutrition Services were outlined to key groups of students, including teachers, dental auxiliaries and graduate nurses. Students from these fields were also given assistance in planning lectures, demonstrations and teaching aids for nutrition projects.

An increased number of requests was received from school children and teachers for information and publications on many phases of nutrition including school lunches. Specially prepared kits of selected teaching aids were compiled and sent to the local conventions of the Alberta Teachers' Association. An exceptionally good response to this service was indicated by the large number of requests for materials although, unfortunately, limited supplies of publications such as Canada's Food Guide, Healthful Eating and the Noon Meal presented problems in meeting the demand.

As in former years, young albino rats were procured by Nutrition Services for schools wishing to conduct animal feeding demonstrations illustrating the value of an adequate diet. These demonstrations were often focal points for community nutrition projects and, as such, re-

ceived widespread publicity. During the year animals were supplied for 48 demonstrations.

The nutritionist also spent considerable time assisting teachers in the new vocational high schools with reference materials and teaching aids for courses in commercial cooking. A number of text books, charts and exhibits were loaned for use in these classrooms .

Service to the General Public

In 1963 a total of 25 lay groups and organizations called upon Nutrition Services for assistance with programs. Among these were: Home and School Association, Consumers' Association of Canada, church groups and community clubs. Talks and other program assistance on various aspects of nutrition were given. The importance of feeding the family according to Canada's Food Guide was the general theme at these meetings.

Nutrition information was also disseminated to the general public through the distribution of pamphlets, booklets and posters. Telephone calls, personal visits to the nutritionist's office and letters from lay people, all entailing special problems, have increased steadily. Perhaps most significant is the increase in requests for assistance with special diets prescribed by physicians. These have been concerned for the most part with menu planning and recipes for low sodium, low cholesterol, diabetic, gluten free and allergy diets.

Mimeographed materials were prepared by the nutritionist for general distribution and for use in specific programs. For example, a score sheet for prenatal use was prepared as well as materials on teenage nutrition and low cost meals stressing the protective foods. In addition, materials prepared in previous years were revised and mimeographed for distribution.

Work with summer camps has also continued. This year more requests than usual have been received for assistance with market orders and camp cookery for adult as well as children's groups. Five of the requests were for small groups going into the north to observe the eclipse and two were for geological field parties going into the Arctic.

Miscellaneous

The preparation of reports and research materials for various government offices, organizations and individuals comprise no mean item in the work of the nutritionist.

In addition to the nutritionist's official duties, she served on committees of the Canadian Home Economics Association, Canadian Public Health Association, Alberta Division, and the Consumers' Association of Canada, Alberta Branch. She was also granted permission to attend the Canadian Public Health Association Convention in Winnipeg in June.

Special appreciation is extended to Dr. J. E. Monagle and his staff for help and encouragement throughout the year. Without the literature and information provided by the Nutrition Division of the Department of National Health and Welfare, the work at the provincial level would be much more difficult and much less effective.

ENTOMOLOGY AND VECTOR CONTROL

**J. H. Brown, B.Sc., M.Sc., F.A.P.H.A., M.R.S.H., F.R.E.S., (Lon.),
Director**

The Division of Entomology and Vector Control is responsible for the locating of, and the control of arthropod-borne diseases of man and their reservoirs of infection in native small mammals, with particular attention being paid to Rocky Mountain Spotted Fever, Colorado Tick Fever, Bubonic Plague, Tularaemia, Encephalomyelitis, and other less well-known conditions, which are of Public Health importance.

Other problems, such as fly and mosquito control, the use of insecticides, insect infestation in food-stuffs and insect pests of institutions, also fall within the work of the Division. Furthermore, a considerable amount of time is devoted to determining the distribution and species of the insects, ticks and mites that are involved in the transmission of human diseases. A number of other biological problems, such as the control of leeches and swimmers' itch, the evaluation of pesticides as a public health hazard and vermin control are also included.

TICK SURVEY

The Rocky Mountain Spotted Fever tick, *Dermacentor andersoni* is well-established in Alberta. Its known and supposed range embraces all of that part of Alberta south of a line from Empress west to Calgary, and thence north and west in the foothills and mountains north to Fort St. John, B.C.

Collections—During 1963 a total of 20 collections were made by host animals with 55 ticks being collected. All of the collections were submitted to the Rocky Mountain Laboratory at Hamilton, Montana, for testing but the results have not been received.

ROCKY MOUNTAIN SPOTTED FEVER

During 1963 there were no reported cases of Rocky Mountain Spotted Fever. However, it is known that infected ticks and reservoirs of infection are present at Medicine Hat, Lethbridge, Milk River, Manyberries, Brooks, Kananaskis and Banff.

Vaccinations—During 1963 a total of 897 doses of Rocky Mountain Spotted Fever vaccine were given in the Medicine Hat, Lethbridge, Milk River, Ralston, Manyberries, Brooks, Kananaskis and Banff areas.

Tick Paralysis—No cases were reported during 1963.

PLAGUE SURVEY

Two very large areas of Plague infection, one centering on Hanna and the other on Brooks exist in Alberta, in both of which plague-infected Ground Squirrels (gophers) and plague-infected Ground Squirrel fleas are present in large numbers.

There are 14 species of fleas in Alberta that are capable of transmitting plague from infected animals to man but, fortunately, most of

these species are not very numerous, and in many cases their distribution is limited. In 1963 a total of 44 fleas were collected in various areas from 22 small mammals. These were submitted to the Plague Suppressive Measures Laboratory, United States Public Health Services at San Francisco, California, for bacteriological examination. Results have not yet been received.

FLY CONTROL

A program of Fly Control within Health Units was developed during 1963, based mainly on adequate sanitation and proper garbage disposal, and aided by chemical spraying. This program was developed in this Division and is based on the fact that spraying for fly control in small towns is very costly. The program appears to have been well accepted.

MOSQUITO CONTROL

Mosquitoes did not present a very serious problem except in the irrigation areas of southern Alberta. However, they were present in sufficient numbers to constitute a nuisance at most of the summer resort areas. Since the establishment of the Provincial Parks, there has been a very great demand in all parts of the Province for local mosquito control programs, but, unfortunately, mosquito control in such small areas is expensive and ineffective unless a definite long range program embracing a number of such places is undertaken. When this is done, with the cost being spread out over a period of years, an exceptionally cheap and effective control can be had.

SCHISTOSOMIASIS

Schistosome dermatitis is quite a serious problem in many of the new lake-side areas and Provincial Parks that are being opened up. This condition is caused by the penetration of the skin by a small fork-tailed parasite (**cercariae**). In man it always follows bathing or swimming in infested lakes or ponds and is characterized by a localized area of very itchy weals.

Snails, which are the hosts for the cercariae, are sensitive to copper and under certain conditions, small quantities of it in the water will poison them. As this has to be done at least once a week it becomes an expensive control. This same chemical is also toxic to fish and unless properly applied can have a very adverse effect on the fish population. Furthermore, there is a grave danger that the accumulation of toxic copper in the water will present a hazard to the general public.

The majority of our cases are generally severe and involve the young age-group who do bathing and wading. Young adults and older persons who swim generally in the deeper water, are not so severely or as often attacked. One interesting development from our study indicates that blond and red-headed persons have a more severe reaction than the darker colored people. This may have something to do with the condition and texture of the skin.

Practically all of the Alberta snails are infested with Schistosome, but the degree of infestation varies within the species depending upon whether the snails were collected from lakes or semi-permanent or permanent sloughs. It was also determined that the abundance of snails

could be related to the type, and types, of aquatic vegetation present. This was considered to be highly significant, as a probable snail control could be developed through the destruction of its habitat and food supply.

During 1963 our experience with non-toxic salt compounds indicated that a control could be achieved through the destruction of the vegetation, which, in turn, deprived the snails of food and shelter.

PESTICIDE INVESTIGATION PROJECT

This investigation in 1963 was supported under the National Health Grants Program as Project 608-7-40 and is carried on in cooperation with the Dairy Bacteriology Laboratory, Department of Agriculture.

The results of the 1963 investigations show a definite increase over positive results with those of 1961 and 1962 in regard to seasonal variations and indicate that the highest percentage of positives occur during and following the spraying season. The purpose of this survey was to obtain information regarding the prevalence of antibiotics and pesticides in the milk supply in Alberta.

Between October 1, 1962 to September 30, 1963, 39 out of 262 samples analysed contained pesticide residues. Nine of the 17 positive milk samples involved suspected cases from five different areas. Seven suspected samples were from animals grazing for periods up to four hours in pastures which had been inadvertently sprayed with Dieldrin. All of these milk samples contained Dieldrin residues. Heptachlor was found in the amounts as high as one part per million. During this period 2,787 samples were examined and 19 contained antibiotic residues. The fact that Pesticide residues constitute a hazard to human health, and also due to the fact that the Department of Public Health is charged with protecting the general public against toxic and/or hazardous substances, it is believed that our pioneer Project has demonstrated its effectiveness.

WESTERN EQUINE ENCEPHALITIS

This investigation, which came into effect April 1, 1962, is supported under the National Health Grants Program as Project 608-7-25 and is carried on by this Division in co-operation with the Department of Entomology, University of Alberta, Provincial Laboratory of Public Health and the Agriculture Research Station, Lethbridge. The proposed research deals with the Public Health Implications of Western Equine Encephalomyelitis in Alberta and consists of a co-operative virological, entomological, ecological and biological investigation. Its objective is to determine the extent and distribution of Western Equine Encephalomyelitis in Alberta through a study of the reservoirs, hosts and vectors involved; to assess its importance in the field of Public Health; and if necessary, to devise and implement methods for its control, suppression and/or elimination.

During the period from April 1 to October 31, 1963, the results obtained were far greater than anticipated. The mosquito collections, through the use of New Jersey Mosquito Light Traps, at the Health Units located at Hanna, Red Deer, Wetaskiwin, Stettler, Vegreville and Edmonton, yielded some 9,055 female mosquitoes representing 4 genera and 17 species; only the females were identified, as they are incriminated in the transmission of the virus. These collections gave us an excellent

sample of the mosquito population in Alberta north of the Red Deer River, as well as the relative abundance of the various species.

Approximately 700 poultry bloods were collected, mainly from flocks in the same areas where the light traps were established. Of these, 98 bloods from fowl of varying ages were collected at the Edmonton Produce Company and the Western Alberta Produce Company in Edmonton, by means of veni-puncture of a wing vein with a 20 gauge needle and a vacutainer prior to slaughtering. These birds were all sent in alive and we have records as to the owners, the age of the bird and the actual farm from which the poultry was shipped. During field investigations 95 poultry bloods were collected in the same method from birds on farms where known and suspected cases of Western Equine Encephalitis occurred.

An outbreak of Western Equine Encephalitis in horses occurred in Alberta during August and September, but our horse blood collections started on May 1, with approximately 500 bloods being collected between May 1 and October 31, 1963. Of these some 390 were collected at the Alsask Processors Limited, Edmonton, from horses shipped in from various parts of the Province for slaughter, as this company is the only horse processing plant in Western Canada. From 40 horses 54 blood specimens, 7 brain specimens, one liver and one spleen specimen were taken and tested by complement fixation for Western Equine Encephalitis and Eastern Equine Encephalitis. No tests were made for SLE. Of the specimens 24 were reported as being positive for Western Equine Encephalitis and 36 had not yet been reported on. None of the specimens were positive for Eastern Equine Encephalitis.

From the latter part of August to September 30, 1963, 6 human cases of suspected Western Equine Encephalitis were reported. Paired blood sera showed that 5 were positive for Western Equine Encephalitis on complement fixation test. The seventh case, which was fatal, did not show any evidence for Western Equine Encephalitis but the post-mortem material will be tested further. The human cases were from Hanna—1; Lethbridge—2; Medicine Hat—3; while the fatal case was a transient who died west of Calgary. It is interesting to note that these human cases occurred in the same areas where horse cases were present, and where our mosquito collections demonstrated the presence, in large numbers, of the known mosquito vectors of this disease.

LEECHES

Reports of leech infestations came in from many Alberta lakes during 1963 and appropriate advice was given. It is evident that leeches will become a problem at many of the resort areas being now developed, particularly in regard to the wading areas, and the operators of resort areas are very much concerned over the problem.

HARVEST ITCH

Harvest itch is a skin condition somewhat similar to scabies and is caused by mites. The mites involved are normally on such vegetation as grain and grasses and are accidentally transferred to the person of harvesters and others handling such materials, particularly in the fall and winter. The necessary advice for controlling outbreaks was circulated to Health Units and local practitioners during 1963. There were no cases reported on Harvest Itch during the year.

INSECTICIDES

Vapourizers are mechanical devices for releasing the fumes of lindane and other insecticides by means of electrical heating elements. Installation regulations under the Canadian Standards Association are used to control their use in food-handling establishments with the result that this problem is decreasing.

In view of the fact that Insecticides, and Pesticides generally, are toxic materials the Division is being very cautious in making recommendations unless there is sufficient evidence that the materials will be used by competent persons in a proper manner. It should be a matter of great concern when it is realized that there is vast array of "poisons" now present in every household. There is ample evidence now available to indicate that some regulatory measures regarding the use of pesticides should be introduced. Particular concern is felt in regard to the possible contamination of milk and milk products through the improper use of pesticides on farms, in dairy barns and the places where milk is produced, handled and processed.

It is understood that the use of Pesticides will be under the control of the Division of Industrial Health starting January 1, 1965.

Q FEVER

In 1963 the Q Fever Survey was carried on in co-operation with the Provincial Laboratory of Public Health and the Dairy Bacteriology Laboratory, Department of Agriculture, and demonstrated the presence of the organism in dairy herds in various parts of the province.

The following are the results obtained for milk samples received at the Provincial Dairy Laboratory for the period covering from September 1st, 1962 to January 31st, 1964.

SAMPLES TESTED

Total number of samples tested	2,816
Negative samples	2,599
Positive samples	217
% positive samples	7.74%

SOURCE OF SAMPLES

	Total	Negative	Positive	% Positive
Edmonton Milk Shed	241	237	4	1.66
Lethbridge-Medicine Hat	389	297	92	23.65
Calgary Milk Shed	398	345	53	13.31
All Other Samples (Cheese plants, condensary, etc.)	1,788	1,720	68	3.80

HERDS TESTED

Total number individual herds tested	1,292
Negative herds	1,211
Positive herds	81
% positive herds	6.26%

SOURCE OF HERDS TESTED

	Total	Negative	Positive	% Positive
Edmonton Milk Shed	230	227	3	1.30
Lethbridge-Medicine Hat	110	91	19	17.27
Calgary Milk Shed	285	247	38	13.33
All Other Herds (Cheese plants, condensary, etc.)	667	646	21	3.14

As for previous years, it still is observed that once a herd becomes infected, it usually remains infected.

LABORATORY

Insect Identification—During 1963 numerous specimens of insects from different products and places were received for identification. Insects from tropical and semi-tropical areas continue to be found in Alberta. From the increase in their numbers, and as they are plant-eating insects, it would appear that they may be directly connected with the vanning-in of fruit and vegetables. Suitable information for control measures was supplied and the local Sanitary Inspectors were notified in each case.

Insect Collections—Good progress was made in 1963 in arranging the collection of insects and ticks injurious to human health.

Water Samples—During 1963 many samples of water were sent in from the Health Units from reservoirs, tap water, etc., and found to contain Algae, Chromogenic bacteria, and small aquatic insects. Information for checking these conditions was given by letter.

STAFF

During 1963 the usual field investigations, and the investigations related to Projects 608-7-24, 608-7-25, 608-7-40, were carried on under the direction of J. H. Brown, M.Sc., Director, Entomology & Vector Control by R. L. Kochendorfer, B.Sc., Biologist.

The usual educational work in regard to the control of insect-borne diseases was carried out by means of radio, television, motion pictures, newspapers and lectures. The usual lectures to the 3rd Year Medical Students, Public Health Nurses and Nurses-in-Training were given, and in some cases, expanded. A series of lectures were given to the students taking the "Health" course in the Faculty of Education.

PROVINCIAL POISON CONTROL SERVICES

J. H. Brown, B.Sc., M.Sc., F.A.P.H.A., M.R.S.H., Director

INTRODUCTION

During 1963 Poison Treatment Centres were established in Stony Plain Municipal Hospital, Stony Plain, Milk River Border Counties General Hospital, Milk River, and Bashaw General Hospital, Bashaw, also Breton General Hospital, Breton, making a total of 108 Poison Treatment Centres in Alberta. Thus the Alberta Poison Control Services provides poison treatment service to all parts of the Province.

The two Poison Information Centres, one in the Calgary General Hospital to serve Southern Alberta, functioned as usual with an increasing number of requests for information on new toxic substances and/or treatment for complicated poisonings, and the other in the University Hospital, to serve Northern Alberta.

During 1963 the office of the Poison Control Services received a total of 3,313 Individual Poisoning Reports. These Reports were coded, punched and made up into monthly statements showing the age, sex, and address of the individual involved, as well as the location where the incident occurred, the substance involved, the treatment given and the final outcome. These monthly reports were compiled on a quarterly basis and a short form was mimeographed and mailed to each practising physician and to each hospital in the Province.

RESULTS FOR 1963

During 1963 a total of 3,313 cases, including deaths, were reported. Of these, 1,726 were males and 1,587 were females. The deaths among the reported cases were 44 males and 14 females making a total of 58 deaths, or a fatality rate of 1.75%; this rate is in accord with the findings elsewhere. In 1963 the Bureau of Vital Statistics reported 52 deaths occurring outside of hospitals.

REPORTING

For purpose of reporting eight (8) Categories were established covering the substances in common use. These Categories are:

A. Drugs and Medications for External Use,—which embraces antiseptics, liniments, cosmetics, salves, etc.

B. Drugs and Medications for Internal Use,—which covers aspirins, Baby's Own and Ex-Lax, sedatives and sleeping pills, cough syrups, prescription drugs, etc.

C. Household Chemicals,—which includes cleaners, detergents, lye, polishes, waxes, solvents and varsol, etc.

D. Industrial Auto & Fuel,—such as gas (CO), industrial products, gasoline, etc.

E. Poisonous Plants & Venomous Animals,—which covers berries and plants, toadstools, etc.

F. Pesticides,—which includes insecticides, mothballs, rodenticides, weedicides, etc.

G. Tobacco & Alcohol,—which covers ethyl alcohol, and tobacco.

H. Miscellaneous,—embracing substances difficult to categorize.

RELATIONSHIP OF AGE TO POISONING AGE-GROUP BELOW 5 YEARS

In examining the Tables it becomes apparent that age and poisonings are directly linked. The fact that 2,467 of the total reported poisonings occurred in the Age-Group below 1 to 4 (actually 74.2 percent), is ample evidence that this age-group needs almost constant supervision. While this information, in relation to poisonings, extends and amplifies this need, it has long been recognized by parents, physicians, nurses and other persons concerned with the care of children that this age-group, through its adventurous proclivities in seeking, climbing, tasting and exploring, was peculiarly accident-prone. It is interesting to note that of the poisonings 1,372, including deaths, occurred in males and 1,095 in females. The deaths were 4 males and no females, with the rate being 6.9% of the total deaths.

AGE-GROUP 5-14

In this age-group there were 164 poisonings with 97 males and 67 females, including deaths. There was 1 male death and 1 female death. This age-group accounted for only 4.9 percent of the total poisonings. It is interesting to note that while the males in the below 1 to 4 age-group accounted for 1,372 of the total poisonings in the age-group, the males in the 5-14 age-group accounted for 97 of the total poisonings. The two deaths were 3.5 percent of the total deaths.

AGE-GROUP 15-24

In this age-group there were 263 poisonings, with 70, including deaths, being males and 193, including deaths, being females; with the females accounting for the largest percentage of the poisonings. The poisonings in the age-group accounted for 7.9 percent of the total poisonings. There were 10 male deaths and 3 female deaths, making a rate of 22.4 percent of the total deaths.

There has been a suggestion made that poisonings in the age-group 15-24 may not be accidental in its true sense, however, our experience shows that most of the incidents are accidental, generally being due to carelessness in not reading directions or understanding what the particular substance was designed to do.

AGE-GROUP 25-44

This age-group accounted for 294, or 8.9 percent of the total poisonings. Here again the females are in the lead with 175, including deaths, of the total poisonings in this age-group. Males accounted for 119, including deaths, of the poisonings. In examining the data, it is easily seen that a large proportion of the 175 cases were associated with Drugs & Medications for Internal Use. On the face of it this indicates that there may have been some abuse in the use of such drugs and medications. It should be sufficient to indicate that the great profusion of Drugs & Medications for Internal Use, available not only in drug stores but also in other retail outlets, and the carelessness with which such materials are handled in the home, could easily account for a large proportion of the poisonings being definitely accidental. The mere fact that most of the victims were females, only supports the well known fact that the females, mostly mothers, are more commonly in the home and are subjected to stresses and strains which the male escapes. The 14 male and 5 female deaths accounted for 32.8 percent of the total deaths.

AGE-GROUP 45-UP

The poisonings in this age-group are 125 or 3.8 percent of the total poisonings reported. Of these 68 involved males and 57 females, including deaths. Here again Drugs & Medications for Internal Use were in the lead, with the other cases being approximately evenly distributed amongst the other categories. Information gathered in relation to a number of these cases shows that many of them involved elderly persons, and it is entirely reasonable to assume that the confusion associated with illness and/or age caused either a mistake in identity of medications or an overdose of the particular product involved. The 15 male and 5 female deaths were 34.5 percent of the total deaths.

SUMMARY

In summarizing poisonings by age-groups, a further examination of Table II indicates that the group below 1-4 accounts for 2,467 of the total 3,313 poisonings. The age-group 5-14 accounts for 164 cases of poisonings. In the age-group 15-24 there were 263 of the total poisonings, while in the age-group 25-44 there were 294 of the total. The age-group 45 and up, accounted for 125 poisonings. However, an examination by sex shows that in the age-group 1-4, 5-14 and 45 and up, the males were the most common. In the age-group 15-24 and 25-44, the females predominated.

ALL POISONINGS BY AGE-GROUPS & SEX

An examination of the Tables discloses the fact that there is a definite relationship between the months and the number of poisonings occurring in each age-group. In a climate such as ours this relationship can be associated, particularly in the 1-4 age group, with the season of the year and type of weather prevailing.

While it would appear that certain months have a higher number of poisonings than others, it should be borne in mind that there is an enormous variety of substances which readily lend themselves to causing poisonings, and while there is ample evidence that Drugs & Medications for External Use, Drugs & Medications for Internal Use and Household Chemicals are the most available source for poisonings, there are many other poisons which under certain conditions become just as readily available.

The following Tables present the results in Statistical Form:

TABLE 1
POISONINGS (INCLUDING DEATHS), FOR ALL AGE-GROUPS, BY SEX, AND TOTALS,
FOR EACH MONTH, 1963

Months	All Categories Cases			Deaths		
	M	F	T	M	F	T
January	124*	118*	242*	10*	4*	14*
February	127*	134*	261*	3*	3*	6*
March	107*	135	242*	3*	....	3*
April	156*	135*	291*	2*	1*	3*
May	128*	106*	234*	3*	1*	4*
June	121*	105	226*	2*	....	2*
July	202*	165	367*	2*	....	2*
August	163*	135*	298*	2*	2*	4*
September	164	128	292	....	....	....
October	149*	151*	300*	6*	3*	9*
November	149*	147	296*	6*	....	6*
December	136*	128	264*	5*	....	5*
Totals	1726*	1587*	3313*	44*	14*	58*

*Deaths included in "All Categories" columns. This list of deaths from poisonings should not be regarded as official for Alberta for 1963.

DEPARTMENT OF PUBLIC HEALTH

DEATHS FROM POISONINGS OCCURRING OUTSIDE HOSPITALS AND REPORTED BY
THE BUREAU OF VITAL STATISTICS—LISTED BY AGE-GROUP, SEX, SUBSTANCE
AND CATEGORIES—FOR 1963

TABLE 1A

CATEGORIES	0 - 4		5 - 14		15 - 24		25 - 44		45 - Up		Total	
	M	F	M	F	M	F	M	F	M	F	M	F
A. Drugs and Med. For Ext. Use:												
Antiseptic	0	0	0	0	0	0	0	0	1*	0	1*	0
B. Drugs and Med. For Int. Use:												
Aspirin	2*	0	1*	0	0	0	1*	0	0	0	4*	0
Barbiturates	0	0	0	0	0	1*	1*	3*	1*	0	2*	4*
Prescriptions	0	0	0	0	0	0	0	0	0	1*	0	1*
Sedatives and Sleeping Pills	0	0	0	0	0	0	2*	0	0	1*	2*	1*
C. Household Chemicals:												
Drain and Drano....	1*	0	0	0	0	0	0	0	0	0	1*	0
D. Industrial Auto and Fuel:												
Carbon Monoxide....	0	0	0	1*	8*	2*	6*	1*	5*	0	19*	4*
Natural Gas	0	0	0	0	0	0	2*	0	3*	0	5*	0
Industrial Products	0	0	0	0	1*	0	0	0	2*	0	3*	0
Gasoline	0	0	0	0	1*	0	1*	0	1*	0	3*	0
F. Pesticides:												
Rodenticide	1*	0	0	0	0	0	0	0	0	0	1*	0
G. Tobacco and Alcohol:												
Ethyl Alcohol	0	0	0	0	0	0	1*	0	2*	3*	3*	3*
Tobacco	0	0	0	0	0	0	0	1*	0	0	0	1*
Totals	4*	0	1*	1*	10*	3*	14*	5*	15*	5*	44*	14*

*DIED—Including those who died outside hospital and reported by Bureau of Vital Statistics.

TABLE II
POISONINGS (INCLUDING DEATHS), IN EACH AGE-GROUP, BY SEX & TOTALS FOR ALL CATEGORIES BY MONTHS — 1963

Months	0-4		5-14		15-24		25-44		45 and Up		All Age Groups		Deaths									
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T							
January	97*	76	173*	6	3	9	8*	17	25*	11*	16*	27*	2*	6*	8*	124*	118*	242*	10*	4*	14*	
February	104	79	183	8*	10	16*	3	15	19	0*	13*	28*	4*	11*	15*	127*	134*	261*	3*	3*	6*	
March	182	106	188	8*	3	16*	3	12	18	8*	18*	33*	6*	3	9*	107*	135	242*	3*	3*	3*	
April	125	91	216	12	5	17	5*	12	18*	16*	13*	33*	4*	1	9*	156*	135	291*	2*	1*	3*	
May	100	74	174	13	8	21	5*	17*	22*	16*	10*	12*	4*	2	8*	125*	106*	234*	3*	1*	4*	
June	101	84	185	7	3	10	5	10	16	4	6	10*	4	2	4	11*	125*	165*	279*	2*	2*	4*
July	162	122	284*	11	5	16	7	14	21	15*	20	35*	7	4	11*	203*	165	368*	2*	2*	4*	
August	140*	105	245*	17	5	12*	4	9*	13*	18	13	21	4	3	9	164	135	298*	2*	2*	4*	
September	135	89	224*	10	3	13	6	18	24	9	13	22	4	4	7	164	128	292	...	...	...
October	114	100	214	6	7	13	9*	20*	28*	11*	30*	30*	9*	5	14*	149*	151*	300*	6*	3*	9*	
November	116*	97	213*	7	7	14	7	14	20*	14*	16	30*	5	7	12*	149*	147	296*	6*	6*	5*	
December	96	72	168	4	8	12	10	25	35	11	18	29	15*	5	20*	138*	128	264*	5*	...	...
Total	1372*	1095	2467*	97*	67*	164*	70*	193*	263*	119*	175*	294*	68*	57*	125*	1726*	1587*	3313*	44*	14*	58*	
% of Total Poisonings	...	...	74.2	...	...	4.9	...	...	7.9	...	8.9	...	...	...	3.8	52.1	47.9	...	...	...	...
*Indicates one or more deaths included	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
DEATHS	4*	...	4*	1*	1*	2*	10*	3*	13*	14*	5*	19*	15*	5*	20*	...	...	...	44*	14*	58*
% of Deaths	...	...	6.9	...	...	3.5	...	...	22.4	...	32.8	...	...	...	34.5	...	...	...	76.0	24.0	...

TABLE III
POISONINGS (INCLUDING DEATHS), BY SEX AND TOTALS FOR ALL AGE-GROUPS FOR EACH CATEGORY BY MONTHS—1963

Months	Category A			Category B			Category C			Category D			Category E			Category F			Category G			Category H			Totals			Deaths				
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T		
January	12	6	18	61*	90*	151*	27*	11	38*	16*	7*	23*	...	...	...	5	2	7	3	1*	4*	...	1	1	124*	118*	242*	10*	4*	14*	
February	11	8	19	73	100*	173*	20	13	33	17*	7*	25*	5	1	6	...	2	1	1	127*	134*	261*	3*	3*	6*
March	11	10	21	68*	97	165*	20	19	34	7*	4	11*	5	1	3	2	2	107*	135	242*	3*	...	3*
April	9	11	20	90*	101*	191*	29	15	44	8*	2	10*	...	1	1	13	3	16	4*	2	7	156*	135*	291*	2*	1*	3*
May	8	9	17	61	65	126	24	15	39	11*	5*	16*	...	1	...	17	10	27	1*	7	128*	106*	234*	3*	...	4*
June	4	7	11	56	65	121	25	18	43	18*	8	18*	...	4	2	16	3	19	2*	...	...	...	...	...	...	6	2	7	2	...	2*
July	20	21	41	81*	81	162*	50	35	85	21	7	28	...	1	2	24	19	43	2*	8	121*	105	226*	2*	...	2*
August	16	11	27	66*	83*	149*	43	16	59	11	10*	21*	...	1	4	5	19*	8	27*	2	...	...	...	...	...	3	5	2	2	...	4*
September	10	10	20	86	89	175	31	17	48	17	2	19	...	3	1	4	7	14	2	1	3	5	2	7	163*	135*	298*	2*	...	4*		
October	10*	12	22*	83*	106	189*	26	15	41	17*	8	25*	...	3	1	4	5	6	11	2	2	4*	3	1	4	164	128	260*	6*	3*	9*	
November	6	6	12	83*	101	184*	29	14	43	17*	13	30*	...	2	...	6	10	16	2	7	149*	147	296*	6*	...	5*
December	12	11	23	67	94	161	27	18	45	21*	2	23*	...	...	1	5	2	7	4	...	...	...	...	...	...	136*	128	264*	5*	...	5*
Totals	129*	122	251*	875*	1072*	1947*	351*	206	557*	170*	75*	245*	16	12	28	123*	73	196*	26*	11*	37*	36	16	52	1726*	1587*	3313*	44*	14*	58*		
% of Cases			7.6		58.7			16.8				7.4	0.8				5.9		1.1						1.6	52.1	47.9					
Deaths	1*	...	1*	8*	6*	14*	1*	...	1*	30*	4*	34*	...	...	...	1*	...	1*	3*	4*	7*	...	...	...	...	...	...	...	44*	14*	58*
% of Deaths			1.7		24.1			1.7				58.7					1.7		12.1									76.0		24.0		

*Indicates one or more Deaths included

DIVISION OF MEDICAL SERVICES

P. B. Rose, M.D., Director

EMERGENCY HEALTH SERVICES

This organization is responsible to the Minister of Health through the Medical Services Division.

Its function is two-fold:

1. To establish a system of Emergency Health Services embracing the whole Province, to be used in the event of a national emergency such as a nuclear attack on Canada, and to promote the survival of the maximum number of our citizens.
2. To encourage each hospital in the Province to have a disaster plan for use in local emergency, and to ensure that these plans are valid and will work.

All hospitals have been contacted and advice and literature helpful in their planning have been given to them. Ninety hospitals were visited during 1963, and 12 hospital disaster plans were exercised. Three Nurses' Orientation Courses attended by a total of 180 nurses were held, in addition to lecturing to interested groups throughout the province.

The staff consists of Dr. R. A. Duncan, Director, and a pharmacist supplies officer, two nurse consultants and two clerical staff.

SPECIAL HANDICAPPED (THALIDOMIDE TYPE) INFANTS' PROGRAM

As a result of the thalidomide investigations carried out in 1962, a committee to deal with these infants was formed, and sent to Eastern Canada for the special training necessary, in May, 1963.

In October, 1963, work was started in looking after six infants born in Alberta and showing thalidomide type deformities. All infants required special upper arm prostheses, which were supplied and fitted. The projected cost to the end of the fiscal year is \$8,000.00. This is a continuing program as these prostheses will have to be modified and changed at fairly frequent intervals to match the growth of the child.

ALBERTA MEDICAL PLAN

After some months of co-operative planning by Government, members of the College of Physicians & Surgeons of Alberta, representatives of Medical Services (Alberta) Incorporated and of the Canadian Health Insurance Association, the Alberta Medical Plan began operation on October 1st, 1963. The administrative aspects of the plan became a function of the Medical Services Division.

The plan is a comprehensive one, providing one level of medical benefits in a basic standard contract. Physicians' services, laboratory services and diagnostic aids, in and out of hospital, are provided. After a waiting period, maternity benefits, annual check-ups and psychiatric treatment are provided.

The comprehensive contract is guaranteed renewable for the life-time of the participant, and provides for a waiver of premium for a period of up to six months in the event of sickness or disability.

The Government provides a subsidy to Alberta residents in two categories, in the amounts shown below:

- A. Those who had no taxable income during the preceding calendar year—
- | | |
|-------------------------------|------------------|
| Single Individual | \$18.00 per year |
| Married Couple | \$42.00 per year |
| Family of Three or More | \$72.00 per year |
- B. Those whose taxable income was not over \$500.00 during the preceding calendar year—
- | | |
|-------------------------------|------------------|
| Single Individual | \$ 9.00 per year |
| Married Couple | \$21.00 per year |
| Family of Three or More | \$36.00 per year |

The maximum premiums that can be charged were established by Regulation and are:

Single Individual	\$ 5.25 per month
Family of Two Persons	\$10.50 per month
Family of Three or More	\$13.25 per month

After a three month open enrolment period in July, August and September of 1963 the plan commenced operation with 45 private insurance companies and Medical Services (Alberta) Incorporated participating.

The first enrolment figures available at 10th October, 1963, showed an enrolment of 680,000 people, of whom 123,875 were receiving the Government subsidy. At the end of December, 1963, these figures had increased to about 690,000 and 131,758 respectively. The gross expenditure to that date was \$147,783.27.

REGISTRY FOR HANDICAPPED CHILDREN & ADULTS

This Registry commenced operation on September 1st, 1963, in this Division, and it is planned to eventually provide a complete register of all handicapped persons in the Province, and in addition, function as a referral, information and research centre. Initially, Health Units of the Province were approached and all are enthusiastically co-operating in registering the disabled known to them. Through the Alberta Council for Crippled Children and Adults an approach has been made to all voluntary agencies dealing with the handicapped. In addition, working with the Division of Vital Statistics and using the Notification of a Live Birth or Stillbirth Form, a register of birth abnormalities is being compiled. It is planned to approach the medical profession directly early in the new year, and the help and co-operation of the College of Physicians & Surgeons of Alberta, through their Committee on Child Health, has been pledged.

DIABETIC DRUG PROGRAM

The Department of Public Health continued to provide without charge, insulin, to diabetic patients who are residents of Alberta. This program has been in operation for approximately 30 years and is provided under a "means test". The patient makes his application through

his own physician. In 1959 the program was expanded to provide an oral hypoglycemic medication "tolbutamide" for those persons capable of being treated with tolbutamide instead of insulin. In June, 1962, the program was further expanded to provide "phenformin" for those patients in whom it was demonstrated that better control could be achieved.

TABLE 1
PERSONS USING INSULIN, TOLBUTAMIDE AND PHENFORMIN

Year	Insulin	Tolbutamide	Phenformin	Total
1959	314	81	....	395
1960	334	188	....	522
1961	345	272	....	617
1962	321	362	22	705
1963	342	445	51	838

PHENYLKETONURIA THERAPY PROGRAM

In 1960 the treatment of phenylketonuria was brought under the Special Drug Program of this Division. Phenylketonuria is a congenital defect found in a very small percentage of newborn infants which prevents the proper metabolizing of certain foods. This results in mental deficiency if not treated early and with special dietary preparations. These preparations are provided free. Altogether, 10 children have received this dietary preparation and 7 are presently active on the program.

RHEUMATIC FEVER PROPHYLAXIS

This program was started in June, 1958, has now been in operation for five and one-half years, and was continued throughout the year on the same basis as previously reported.

TABLE 2

Year	Applications Approved and first supply sent	Follow-up Supplies
1958*	494	250
1959	433	1,545
1960	391	2,933
1961	383	2,708
1962	336	3,518
1963	266	3,953
	2,303	14,907

*Figures are for June 30th, 1958, to December 31st, 1958 only.

During the past five and one-half years that the program has been in operation, a total of 2,303 applications have been approved and 14,907 follow-up supplies requested and sent. To the end of December, 1963, the number of patients suspended by reason of having reached the age limit for the program, the eighteenth birthday, was 299. A preliminary review of renewal forms received in the past twelve months indicates a total of 63 recurrences reported by doctors, 8 of these recurrences are adjudged to be serious.

For approved patients 200,000 units of penicillin twice daily is provided. For those patients who are sensitive to penicillin, an alternative prophylactic medication, triple sulpha, can be provided, the dosage being one 7½ gr. tablet twice daily. There are presently 29 cases receiving this treatment; of this total, 8 developed sensitivity since coming under the prophylactic program.

EMERGENCY AIR AMBULANCE SERVICE

This service now in its fifth year of operation, provided 76 flights during the twelve months to December 31st, 1963. Seriously ill patients, living in inaccessible areas, are transported to hospital in the two larger cities. If the patient can be transported satisfactorily by car, ambulance, or rail, the air service is not available.

TABLE 3

Year	Flights	Patients	Adults	Children	Premature Infants
1959	55	53	....	....	....
1960	44	52	32	20	....
1961	50	50	31	19	....
1962	76	83	50	33	13
1963	76	78	51	27	14
					5

Premature infant totals included with children.

POLIOMYELITIS TREATMENT PROGRAM

Under the provisions of The Poliomyelitis Sufferers Act and Regulations, residents of Alberta who suffer from poliomyelitis and its subsequent effects may obtain such treatment services as, in-hospital medical services subsequent to the acute fourteen-day isolation period, surgical services, and respirator care where indicated, from the day of onset of the disease. Orthopaedic appliances are provided. Out-patient physiotherapy, muscle tests, and radiological examinations and other assessment procedures are also available. Out-patient speech therapy and occupational therapy may be provided.

Admissions to hospital, and hospital days, are as follows:

TABLE 4
HOSPITAL ADMISSIONS 1960-1963

Year	New Admissions	Re-admissions	Total
1960	304	172	476
1961	88	212	300
1962	53	151	204
1963	48	168	216

HOSPITAL DAYS 1960-1963

Year	Isolation	Post-Isolation	Respirator	Total
1960	1,738	28,196	1,925	31,859
1961	263	16,170	7,572	24,005
1962	34	6,040	6,895	12,969
1963	6	5,830	6,382	12,218

TABLE 5
PROVINCIAL EXPENDITURES FOR POLIOMYELITIS TREATMENT SERVICES
1960-1963

Expenditure	1960	1961	1962	1963
Post-Isolation Days @ 60¢	\$ 16,827.00	\$ 9,702.00	\$ 3,624.00	\$ 3,498.00
Respirator Days @ \$2.00	3,876.00	15,144.00	12,790.00	12,764.00
Surgical Procedures	25,007.40	27,631.30	20,316.50	22,265.35
Medical Advisor	2,400.00	2,400.00	2,400.00	2,400.00
Appliances and Out-Patient Services	43,393.92	47,609.03	36,911.66	41,112.90
Home Care Program	13,826.99	21,519.28	23,942.13	334.00
Total	\$105,331.31	\$124,005.61	\$ 99,984.29	\$ 82,374.25

TABLE 6
APPLIANCES AND OUT-PATIENT SERVICES 1960-1963

Services	1960		1961		1962		1963	
	No.	Expendi- ture	No.	Expendi- ture	No.	Expendi- ture	No.	Expendi- ture
IN-PATIENT Appliances	882	\$32,139.62	773	\$34,170.55	801	\$27,525.61	803	\$30,296.91
OUT-PATIENT Appliances	44	3,773.55	49	4,219.63	45	3,229.25	64	5,826.39
Physiotherapy .....	...	4,455.50	1,903	6,126.10	945	2,826.75	785	1,878.20
Muscle Tests	22	103.00	42	163.25	58	191.75	34	128.50
Radiology .....	...	2,806.50	...	2,774.50	...	3,030.50	...	2,812.00
Other (Cast Room, etc.) .....	...	115.75	...	155.00	...	107.80	...	170.90
Total .....	...	\$43,393.92	...	\$47,609.03	...	\$36,911.66	...	\$41,112.90

The incidence of poliomyelitis continued to decrease in 1963. The total number of new admissions to hospital in 1963 was 90.5% of the 1962 total. Re-admissions increased by 10.2%. Operative procedures in 1963 totalled 175 compared to 133 in 1962. Post-isolation care was provided in the University of Alberta, Alberta Children's and the Calgary General Hospitals. Expenditures under the Home Care Program only amounted to \$334.00, equipment being provided for one patient. The total number of patients for whom equipment had been provided to December 1963 was 31.

TREATMENT SERVICES FOR SOCIAL SERVICE RECIPIENTS

The Treatment Services Act provides for treatment services for the Social Services Group. The services provided are medical, dental, optical and chiropractic. Certain limited services such as physiotherapy and podiatry are also provided but require prior approval by the Medical Services Division.

Complete hospitalization is provided by the Division of Hospital Services under The Hospitalization Benefits Plan.

During 1961 the Department of Public Welfare introduced Social Allowance and Social Assistance; for statistical purposes therefore, pensioner groups are now divided as follows:

Group A—Over 60 years of age.

Group B—Persons in receipt of Blind and Disability Pensions.

Group C—Under 60 years of age.

Group D—Government Wards added to the Social Services Group, November, 1961.

TABLE 7
SOCIAL SERVICE RECIPIENTS AS OF DECEMBER 31st, 1961, 1962, 1963

Categories	Recipients			Spouses			Dependent* Children			Total		
	1961	1962	1963	1961	1962	1963	1961	1962	1963	1961	1962	1963
A	29,636	29,474	28,938	3,630	3,689	3,642	875	985	1,059	34,141	34,148	33,639
B	4,938	5,695	6,268	1,091	1,378	1,567	1,921	2,499	2,914	7,950	9,572	10,749
C	2,974	3,542	4,056	7	15	31	7,478	9,189	11,058	10,459	12,746	15,145
D	....	3,289	3,489	....	....	....	....	....	....	....	3,289	3,489
	37,548	42,000	42,751	4,728	5,082	5,240	10,274	12,673	15,031	52,550	59,755	63,022

In 1963 total social service recipients increased by 3,627 over 1962. This overall increase was 5.47% compared to the population increase of 2.55%.

The average number of recipients in the Province during the calendar year 1963 was 61,450, an increase of 3,811 over 1962. Provincial expenditures for treatment services for social service recipients in the calendar years 1962 and 1963 were \$1,873,901.93† and \$2,080,490.96 respectively, showing an increase in 1963 of \$206,589.03.

The per capita expenditure for the group in 1963 was \$33.87 as compared to \$32.51‡ in 1962. Per capita payments to the College of Physicians and Surgeons were \$24.00 per year, to the Alberta Dental Association \$6.12 per year and \$1.20 per year to the Alberta Chiropractic Association.

TABLE 8
PROVINCIAL EXPENDITURES BY TYPE OF SERVICE—
CALENDAR YEARS 1962-1963

Type of Service	1962	1963	Increase or Decrease
Medical Care	\$1,383,358.00	\$1,474,790.00	+ 6.61%
Dental Care	302,982.20	376,373.67	+ 24.22%
Optical and Optometric Services	119,472.03	157,731.39	+ 32.02%
Chiropractic Services	65,613.70*	69,661.90	+ 6.17%
Other Treatment Services	2,476.00	1,834.00	-21.89%
Total	\$1,873,901.93†	\$2,080,490.96	

*This payment incorrectly stated as \$69,613.70 in 1962 Annual Report

†Corrected Total

‡Corrected per capita expenditure

1. Medical Care for Social Service Recipients

Through an agreement between the Department of Public Health and the College of Physicians and Surgeons of Alberta, the practising members of the College provide complete medical care for the Social Service Recipient Group. The payment is \$24.00 per capita per year on a basis of \$2.00 per capita per month.

These monies are placed in a Pensioners' Medical Fund and are administered by the College. Administrative cost in the fiscal year April 1st, 1963 to March 31st, 1964 was 2.5% of the assessed value.

Individual doctors' accounts are assessed according to the College's minimum schedule of fees, and an initial payment of 50% is made. The remainder of the fund is pro-rated at the end of the fiscal year according to the assessed value of the accounts submitted, and a further payment is made.

In 1963 the payment was 62.8% of the assessed value of the accounts received. The difference is a sizeable personal contribution made to the medical care of social service recipients by the doctors of Alberta.

In 1963 the Province expended \$1,474,790.00 for medical services as compared to \$1,383,358.00 in 1962. This represents an increase of 6.6%.

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TABLE 9
SOCIAL SERVICE RECIPIENTS MEDICAL SERVICES UTILIZATION
April 1st, 1963 - March 31st, 1964

GROUP "A"	Recipient		Spouse		Child	
	No. of Services	Fee	No. of Services	Fee	No. of Services	Fee
Type of Service						
Office:						
First	3,378	\$ 20,700.50	391	\$ 2,664.00	126	\$ 789.00
Minor I	26,972	110,639.00	3,316	14,513.00	1,913	7,938.00
Repeat	51,233	140,999.00	5,369	15,146.00	1,234	3,418.00
Referred	30	170.00	5	25.00		
House	13,469	61,527.00	790	3,494.00	343	1,504.00
N.H.E.	4,259	30,859.00	239	1,777.00	129	985.00
Detention Fee	522	1,476.50	35	91.00	6	18.00
Hospital:						
Active	202,506	382,901.75	11,228	24,721.50	2,075	5,690.50
Referred	848	2,475.00	58	262.00		
Chronic	24,721	44,352.00	378	606.00		
Mileage	669	5,810.50	22	184.00		
Certificate	98	595.00	3	30.00		
Consultation	3,868	54,111.50	298	3,988.50	85	1,052.00
Laboratory	14,253	31,663.75	1,540	3,577.75	334	750.00
Minor Procedures	4,878	6,596.50	593	754.00	200	243.00
Obstetrics and Gynaecology	234	16,811.25	82	5,672.00	3	175.00
General Surgery	3,959	119,692.13	498	16,728.00	276	5,162.00
Ortho. Surgery	773	62,244.50	61	4,494.50	57	2,759.50
Neuro. Surgery	91	3,288.50	7	420.00	11	51.25
Urolo. Surgery	1,041	55,528.50	36	2,208.00	6	115.00
Otolaryngology	539	5,368.00	39	801.00	116	3,398.00
Eye	436	49,899.50	44	2,075.00	9	360.00
Refraction	2,008	17,660.00	219	2,168.00	143	1,365.00
Plastic Surgery	54	2,457.00	3	175.00	7	587.00
Internal Medicine	7,026	37,817.50	493	2,918.50	22	185.00
Psychiatry	416	4,455.75	23	277.50	30	284.00
Paediatrics					35	334.00
Dermatology	755	2,844.00	119	392.00	302	992.00
Physiatry	3	45.00				
X-ray	6,540	64,274.50	809	8,234.50	274	2,200.00
Anaesthesia	2,183	53,739.50	234	6,170.00	174	3,374.00
Surgical Assist.	1,486	13,229.50	103	1,367.00	20	372.00
Totals	379,248	\$1,404,232.13	27,035	\$ 125,934.75	7,930	\$ 44,101.25
Average cost per service		\$3.70		\$4.66		\$5.56
Average cost per individual covered		\$4.05		\$2.87		\$3.55
GROUP "B"						
Office:						
First	618	\$ 3,703.00	150	\$ 948.00	114	\$ 708.00
Minor I	5,971	23,320.00	1,482	6,445.00	1,589	6,482.00
Repeat	11,437	30,847.25	1,895	5,454.00	1,047	2,846.00
Referred	2	10.00	1	5.00		
House	1,398	6,253.00	129	575.00	138	674.00
N.H.E.	554	3,970.50	61	480.00	100	765.50
Detention Fee	65	315.00	2	10.00		
Hospital:						
Active	27,549	54,585.00	3,146	7,115.00	2,890	7,383.50
Referred	276	815.50	29	109.00		
Chronic	4,318	7,597.50	6	12.00		
Mileage	88	631.00	16	52.00	1	
Certificate	13	102.00	1	10.00		
Consultation	918	12,864.00	83	1,225.00	43	543.00
Laboratory	2,664	6,288.50	463	1,018.50	215	438.00
Minor Procedures	795	1,079.00	127	137.00	49	52.00
Obstetrics and Gynaecology	69	4,743.00	82	6,087.00	7	435.00
General Surgery	915	25,762.51	234	5,932.50	230	4,082.00
Ortho. Surgery	170	12,645.51	17	755.00	37	1,415.00
Neuro. Surgery	58	2,168.00	7	260.00	2	5.00
Urolo. Surgery	99	5,258.00	13	285.00	5	85.00
Otolaryngology	111	1,778.00	15	177.50	67	1,971.00
Eye	59	4,074.00	4	220.00	4	34.00
Refraction	329	3,085.00	81	775.00	119	920.00
Plastic Surgery	53	1,722.50			4	300.00
Internal Medicine	983	5,329.00	160	889.00	11	95.00
Psychiatry	264	2,810.75	62	522.00	27	178.50
Paediatrics					16	151.00
Dermatology	296	930.50	134	355.00	95	206.50
Physiatry	17	100.00				
X-ray	1,422	13,899.00	302	3,205.00	152	1,379.00
Anaesthesia	485	12,830.00	121	2,816.00	101	2,057.00
Surgical Assist.	275	2,382.00	45	627.00	13	180.00
Totals	62,271	\$ 251,897.02	8,868	\$ 46,501.50	7,076	\$ 33,386.00
Average cost per service		\$4.15		\$5.36		\$4.72
Average cost per individual covered		\$3.47		\$2.55		\$1.00

DEPARTMENT OF PUBLIC HEALTH

TABLE 9

SOCIAL SERVICE RECIPIENTS MEDICAL SERVICES UTILIZATION
April 1st, 1963 - March 31st, 1964—(Continued)

Type of Service	Recipient		Spouse		Child	
	No. of Services	Fee	No. of Services	Fee	No. of Services	Fee
GROUP "C"						
Office:						
First	612	\$ 4,111.00	3	\$ 21.00	489	\$ 3,159.00
Minor I	4,557	18,838.00	43	194.00	6,406	26,219.00
Repeat	5,010	13,784.00	60	177.00	4,222	11,693.00
Referred	1	5.00				
House	603	2,737.00	5	24.00	1,458	6,302.00
N.H.E.	277	1,994.00	4	24.00	579	4,472.00
Detention Fee	34	175.00			10	80.00
Hospital:						
Active	4,907	10,820.00	415	755.50	5,942	15,869.00
Referred	43	133.00				
Chronic	111	228.00	1	2.00	1	5.00
Mileage	3	18.00			10	113.00
Certificate	2	20.00			3	5.00
Consultation	369	5,012.00	9	150.00	367	4,435.00
Laboratory	2,690	6,388.00	16	38.00	1,808	3,587.75
Minor Procedures	308	464.00	5	13.00	256	292.00
Obstetrics and Gynaecology	441	22,159.50	9	738.00	14	824.50
General Surgery	581	16,052.00	5	520.00	751	13,009.00
Ortho. Surgery	111	4,492.50	2	65.00	199	8,200.00
Neuro. Surgery	18	895.00			41	227.50
Urolo. Surgery	22	585.00	2	90.00	27	483.00
Otolaryngology	57	1,922.00			395	11,764.50
Eye	15	560.00			48	2,818.00
Refraction	326	2,862.00		10.00	572	5,272.00
Plastic Surgery	19	660.00	1		17	1,130.00
Internal Medicine	319	2,169.50	4	30.00	127	\$21.50
Psychiatry	252	2,781.00			86	975.00
Paediatrics					165	1,380.00
Dermatology	267	895.50	4	16.00	516	2,166.00
Physiatry					1	15.00
X-ray	1,108	11,319.00	9	97.00	974	7,987.50
Anaesthesia	445	9,192.00	12	291.00	564	10,377.00
Surgical Assist.	121	1,485.00	3	45.00	51	858.00
Totals	23,629	\$ 142,757.00	612	\$ 3,300.50	26,099	\$ 144,640.25
Average cost per service		\$6.04		\$ 5.39		\$5.54
Average cost per individual covered		\$3.05		\$12.45		\$1.15

TABLE 9
SOCIAL SERVICE RECIPIENTS MEDICAL SERVICES UTILIZATION
April 1st, 1963 - March 31st, 1964—(Continued)

GROUP "A"	Recipient		Spouse		Child	
	No. of Services	Fee	No. of Services	Fee	No. of Services	Fee
Type of Service						
GROUP "D"						
Office:						
First	607	\$ 3,699.00				
Minor I	2,906	12,165.00				
Repeat	2,201	5,792.00				
Referred	2	10.00				
House	1,042	5,149.00				
N.H.E.	217	1,696.00				
Detention Fee	7	20.00				
Hospital:						
Active	3,376	7,102.50				
Chronic	31	165.00				
Mileage	4	33.00				
Certificate	114	705.00				
Consultation	297	3,705.00				
Laboratory	888	1,937.00				
Minor Procedures	116	126.00				
Obstetrics and Gynaecology	24	1,052.00				
General Surgery	312	6,313.50				
Ortho. Surgery	90	4,166.50				
Neuro. Surgery	37	200.00				
Urolo. Surgery	58	1,037.00				
Otolaryngology	128	4,369.00				
Eye	42	2,842.00				
Refraction	362	3,463.00				
Plastic Surgery	13	1,800.00				
Internal Medicine	96	662.00				
Psychiatry	1,492	11,423.50				
Paediatrics	398	3,446.00				
Dermatology	291	1,078.00				
Physiatry	2	30.00				
X-ray	487	4,363.50				
Anaesthesia	303	5,688.00				
Surgical Assist.	27	437.50				
Totals	15,980	\$ 94,676.00				

Average cost per service \$5.92.

Average cost per individual covered \$2.30.

Total Cost and Services						
GROUPS A, B, C, D	481,128	\$1,893,562.15	36,515	\$ 175,736.75	41,105	\$ 222,127.50
Average cost per service		\$3.94		\$4.81		\$5.40
Average cost per individual covered		\$3.73		\$2.82		\$1.29

TOTAL SERVICES RENDERED	558,748
TOTAL ASSESSED COST	\$2,291,426.40
Average cost per service	\$4.11
Average cost per individual covered	\$3.09

2. Dental Services for Social Service Recipients

The per capita payment made to the Alberta Dental Association on behalf of Social Service Recipients was increased effective April 1st, 1963, at which time the rate was raised from 45c per month to 53c per capital per month. Routine dental care is provided to all recipients except as follows: New dentures and partial plates are provided at half cost to eligible individuals. Posterior bridge work is not provided. Subsequent to September 1963 the dentist receives as full payment for services provided to Social Service Recipients, 75% of the approved fee schedule on submission of his accounts to the Alberta Dental Association. In 1963 the Province paid to the Alberta Dental Association for dental services \$376,373.67 as compared to \$302,982.20 in 1962. This was an increase of \$73,391.47 or 24.2%.

Dental services were used by 12,662 recipients and dependents in 1963. The disbursement made by the Alberta Dental Association to the practising dentists during 1963 was \$329,942.84. Administrative costs were \$22,500.30 or 5.98%.

The Alberta Dental Association has modified its submission of statistics on Social Service Recipient Groups; comparative data is therefore not available for previous years.

TABLE 10
SOCIAL SERVICE RECIPIENTS UTILIZATION OF DENTAL SERVICES BY GROUPS 1963

	Average Number Eligible	Number Receiving Treatment	Per Cent of Participation	Disbursements Per Group	Average Cost Per Treated Person
Group "A" and Spouses	32,810	2,877	8.8	\$ 61,163.32	\$21.26
" " dependent children	1,022	227	22.2	6,193.00	27.28
Group "B" and Spouses	7,472	1,452	19.4	36,765.06	25.32
" " dependent children	2,709	811	29.9	22,730.75	28.03
Group "C" and Spouses	3,849	1,347	35.0	39,428.25	29.27
" " dependent children	10,189	4,641	45.5	131,615.46	28.36
Group "D"	3,398	1,307	38.4	32,047.00	24.52
	61,450	12,662	20.6	\$329,942.84	\$26.06

3. Optical Services for Social Service Recipients

The total claim for glasses in 1963 was 10,569 at a cost of \$106,364.89. This represents an increase of 1,952 in claims and of \$24,014.86 in payments.

Comparative data for eligible recipients is shown in the following table:

TABLE 11
SOCIAL SERVICE RECIPIENTS UTILIZATION AND COSTS OF OPTICAL SERVICES
1959-1963

Year	Average Number of Recipients	Number of Accounts	% of Recipients Obtaining Glasses	Total Cost of Glasses	Cost Per Account
1959	44,051	7,890	17.9	\$ 77,225.30	\$ 9.79
1960	47,618	8,523	17.9	82,680.70	9.70
1961	50,459	8,338	16.5	82,287.13	9.88
1962	57,639	8,617	14.9	82,350.03	9.44
1963	61,450	10,569	17.2	106,364.89	10.06

The percentage of recipients obtaining glasses was 2.3% higher than in 1962 and the cost per account was 62c higher. The total payment to optometrists was \$51,366.50 for 7,186 claims, an increase of \$14,244.50 or 38% in payments and an increase of 886 or 12% in claims.

The fees paid by this Department to optometrists for refractive services was increased on April 1st, 1963, from \$5.00 for examination and

refraction plus \$1.00 for fitting if carried out, to \$6.50 for examination and refraction plus \$2.50 for fitting.

Payments to the medical eye specialist is part of the overall agreement for pensioner medical care made with the College of Physicians and Surgeons.

4. Chiropractic Services for Social Service Recipients

An agreement was concluded between the Alberta Chiropractic Association and the Department of Public Health in June 1961, whereby in return for a per capita payment of \$1.20 per year by the Department, the Alberta Chiropractic Association provides chiropractic care for all Social Service Recipient Groups except Group D. The total payment to the Association in 1963 was \$69,661.90. This represents an increase of \$4,048.20 or 6.17% over the 1962 payment of \$65,613.70.*

*This payment incorrectly stated as \$69,613.70 in 1962 Annual Report.

5. Other Treatment Services

These services include physiotherapy and podiatry. Such services are only provided upon the recommendation of the patient's physician and the approval of the Director of Medical Services, Department of Public Health. Expenditure for these services in 1963 amounted to \$1,934.00 and was for physiotherapy. This represented a further decrease of \$542.00 or 21.89% in expenditure. Out-patient physiotherapy, received at hospitals is part of the Hospitalization Benefits Program and is not included in the above.

SCHOOL FOR NURSING AIDES

These schools, started under The Nursing Aides Act, 1947, are intended to give an opportunity for a professional career in nursing to women who might not possess the necessary academic qualifications to enroll in a regular School of Nursing.

This program has been an unqualified success from its beginning, the first school having been started in Calgary in 1948. In 1958 a second school was opened in Edmonton. There is an increasing demand for the services of these people occasioned by the increase in size and number of acute and auxiliary hospitals and the decreasing time the professional nurse has to spend with the patient. The field of bedside nursing care is becoming the nursing aide's and she is doing it very well.

TABLE 12
TOTAL NURSING AIDE GRADUATES 1954-1963

1954	256	1959	451
1955	270	1960	449
1956	254	1961	463
1957	239	1962	541
1958	281	1963	527

A total of 4,889 nursing aides have been certified to date. This figure includes those persons certified under Section 16 of the Nursing Aides Regulations in the Province.

NURSING RECRUITMENT PROGRAM

With the accelerated expansion of Alberta's health program there is a continuing need to maintain the supply of qualified nursing personnel.

Role of Recruitment

The program of Nursing Recruitment has two major phases. It provides a background of information and material for use in provincial

programs and gives assistance to local groups in establishing a program that will encourage higher and better qualified enrolment in all nursing schools.

Two Provincial Counsellors' Conferences were held, one in Calgary and one in Edmonton with an overall attendance of 135 School Counsellors, 5 Public School Board members and 4 Faculty of Education members.

Approximately 2,500 career folders of information have been directed to the following groups:

- (a) All secondary schools in Alberta (this included Junior High)
- (b) All Principals and School Counsellors in Alberta
- (c) 46 Chapters of the Alberta Association of Nursing
- (d) 24 Health Units
- (e) 17 Municipal and Affiliated Nurses
- (f) 150 Hospitals
- (g) 100 Home and School Associations

An estimated 34,000 pamphlets have been distributed to the above organizations, plus students, parents and key people in health careers.

Displays were set up for the 12 schools of nursing and 10 active treatment rural hospitals.

Recruitment exhibit booths were set up and staffed at the Alberta Association of Hospitals' Convention, the Alberta Federation of Home and School at Banff, the Alberta Association of Registered Nurses and C.F.R.N. and C.B.C. T.V.

Each month some 50 letters of inquiry are received. Of this number about 10 are outside the Province.

Eighty-seven "Career Events" were planned and co-ordinated by the Director of Nursing Recruitment for 1963-64. An attendance of 3,100 parents and students was recorded.

Publicity for "Open House" for hospitals was provided through T.V., radio, newspaper and direct correspondence throughout the Province of Alberta.

LABORATORY AND X-RAY SCHOOL

This school was started by the Department of Public Health in 1954 to supply a technician trained in Radiology and Diagnostic Laboratory techniques to smaller hospitals that would be economically unable to hire two such individuals and whose work load would not justify it.

It was found necessary and desirable to extend the training course for a period of one month which, by intensive integration with the existing lecture material, enabled an extended laboratory program to include Bilirubins, Prothrombin Times, B.U.N.'s, and Blood Sugar evaluations. This was commenced on October 1st, 1962, and the class of 22 trainees which graduated in April, 1963, was the first class to have the extended training. The demand for graduates of the combined course absorbed all of the trainees of the 1962-63 course. A very favourable ratio of student applicants to places enables the screening process to impose elevated requirements for acceptance.

On December 31st, 1963, there were 23 students in training with positions awaiting them. To that date 163 had been trained, of these, 101 were active, 78 in rural hospitals, 16 had advanced, or were advancing to a higher degree (Registered Technician), and 7 working in clinics, etc.

DIVISION OF CANCER SERVICES

R. G. Moffat, M.D., D.M.R.E., Director

The increase in service has been appreciable during 1963 with 456 more new patients being referred than in the previous year, an increase of almost 12%, and there were 10% more new malignancies discovered. In fact, it has been the busiest year in the history of this Service. It is extremely gratifying that the clinic staffs have been able to handle this load with less than half the number of radiotherapists required by the usual standards, and they merit our sincere gratitude. It would not have been possible without the faithful support of local physicians in seeing more than 29,000 patients. It is also facilitated by the co-operative spirit of the referring doctors. It has been well demonstrated that the best cancer treatment results are obtained through the most thoughtful consultation between surgeons, radiotherapists, internists, radiologists and pathologists. I believe the cancer patients of this Province are fortunate to have this collaboration to a high degree of efficiency. It is only achieved with considerable sacrifice of personal interests.

Cure rates for the three clinics are reviewed in this report and bear favorable comparison with other agencies reporting on a regional basis. We hope that much more detailed and instructive analysis of individual malignant sites will be possible with the acquisition of a qualified medical statistician, as most of this is beyond the capacity of the present busy staff. This year an abstract form has been introduced, which should produce much of this information through punch card and computer techniques.

Plans for the new Edmonton Clinic building are in progress and we anticipate commencement of the building before the next report.

All clinics have shown an increase in the number of radiotherapy treatments carried out. This has necessitated a great deal of overtime at the Edmonton Clinic, which is badly in need of more supervoltage equipment, but must await a new building. We are fortunate in having been able to send our Chief Technician from Edmonton to review methods of conducting departments in Great Britain.

The number of malignancies not seen at clinics has been reduced from 28% in 1962 to 23%, which is gratifying when it is considered that in some provinces less than 50% are seen and recorded by the cancer agency. Less than 9% of cancer deaths have been previously unknown to the Cancer Services and in 1962 it was 12%.

The incidence of cancer cases detected has increased from 240 in 1962 to 256 per 100,000 in 1963, presumably due to increase in aging people in the population. In former years, it has been lower than most provinces, possibly the result of an influx of younger people to an expanding economy. It is no doubt also influenced by a greater awareness among patients and profession about this second cause of death, likely due in significant part to effort of the Alberta Division of the Canadian Cancer Society. Older people retiring to warmer regions also has an influence in lowering the incidence.

In 1963 an increase in service to patients in outlying parts of the Province has been brought about by establishing Peripheral Clinics in

Medicine Hat and the Peace River district, obviating much travel for a large number of people. It is proposed to extend the service to other centres as staff becomes available.

At quarterly meetings of the three clinic staffs, and interested consultants, malignancies in several sites have been reviewed which assists in co-ordinating treatment policies and resolving varying viewpoints with discussion of improved methods. With the multitude of new techniques being advocated from various centres, such meetings become increasingly important, for management of malignancy extends into all specialties, and only by increasing communication can we hope to keep abreast.

The Service is greatly indebted to the extensive efforts of the clinic auxiliaries, as well as the Ulster House boarding home in Calgary, in their dedicated voluntary service to the patients. The new and very active Edmonton auxiliary has transformed the waiting area out-of-recognition, and their constant attention to waiting patients and the driving has greatly improved the comfort and morale of patients. The casual observer can easily overlook the considerable personal sacrifice this entails, but to many patients it is the most inspiring part of their contact with the Clinic, and the staff is duly grateful for this greatly appreciated co-operation.

In the sphere of education, nurses in training of most city hospitals have an orientation tour of the Clinic. Lectures and twice weekly clinics are conducted with clinical undergraduates by radiotherapists. Due to restricted staff, time has not yet permitted formal rounds for presentation of unusual and controversial cases with consultant groups as is desirable, but opportunities have been afforded for participation in continuing education meetings. Many promising developmental projects await the allocation of funds and personnel, as they do not fit easily into fundamental research category.

A group of interested citizens have been appointed to advise the permanent staff as to matters relating to community's interest in the Cancer Service.

The three Cancer Clinics in the Province of Alberta have experienced a very busy year (1963) as the tables below will reveal:

1. Number of examinations made (Malignant and Benign) January 1-December 31, 1963 is 29,439.

	New		Review		Total	
	1963	1962	1963	1962	1963	1962
Edmonton	3,339	2,935	10,750	10,270	14,089	13,205
Calgary	2,049	1,916	11,344	9,907	13,393	11,823
Lethbridge	451	532	1,506	1,610	1,957	2,142

It will be noted that the total number of examinations made in the Edmonton, Calgary and Lethbridge Clinics is 29,439 as compared with 27,170 in 1962; 26,511 in 1961; 24,718 in 1960 and 22,075 in 1959.

2. Number of examinations made where malignancy was proven 25,287 as compared with 23,008 in 1962 as shown in the following table:

	Edmonton	Calgary	Lethbridge	Total
1963	11,682	11,919	1,686	25,287
1962	10,793	10,398	1,817	23,008

3. EDMONTON CLINIC

New Malignant cases reporting to Clinic—1963	1,453	
Previously Benign cases reporting to Clinic—1963	181	
Total New Malignant cases reporting to Clinic in 1963	1,634	
Non-reporting Malignant cases by—		
Pathological report	275	
Autopsy report	41	
Reported by Vital Statistics	132	448
Total		2,082
Prior to 1953 Malignant cases reporting to Clinic for the first time in 1963.....	15	
Cases treated elsewhere reporting to Clinic in 1963	77	
Cases who developed a second malignancy in 1963	72	

CALGARY CLINIC

New Malignant cases reporting to Clinic—1963	976	
Previously Benign cases reporting to Clinic—1963	70	
Total New Malignant cases reporting to Clinic in 1963	1,046	
Non-reporting Malignant cases by—		
Pathological report	122	
Autopsy report	9	
Reported by Vital Statistics	118	249
Total		1,295
Prior to 1953 Malignant cases reporting to Clinic for the first time in 1963	2	
Cases treated elsewhere reporting to Clinic in 1963	84	
Cases who developed a second malignancy in 1963	60	

LETHBRIDGE CLINIC

New Malignant cases reporting to Clinic—1963	198	
Previously Benign cases reporting to Clinic—1963	12	
Total New Malignant cases reporting to Clinic in 1963	210	
Non-reporting Malignant cases by—		
Pathological report	12	
Autopsy report	14	
Reported by Vital Statistics	25	51
Total		261
Prior to 1953 Malignant cases reporting to Clinic for the first time in 1963	0	
Cases treated elsewhere reporting to Clinic in 1963	10	
Cases who developed a second malignancy in 1963	6	

The total number of New Malignant Cases discovered in Alberta in 1963 was 3,638.

4. Number of examinations made on patients which proved Benign:

	Edmonton	Calgary	Lethbridge	Total
1963	2,407	1,474	271	4,152
1962	2,412	1,425	325	4,162

5. (a) EDMONTON CLINIC

Diagnostic Radiology

	No. of Films	No. of Pts.	No. of Exams	Average No. of Exams per day
1963	33,842	8,463	11,825	47.3
1962	34,857	8,017	11,140	44.7
1961	26,188	6,504	9,629	38.5

Outside films reviewed:

1963—11,443 films on 1,001 patients
 1962— 9,217 films on 763 patients
 1961— 8,390 films on 606 patients

	G.I. Series	Large Bowel and Air Contrast	Barium Fluoroscopies	Urinary Tract	Tomograms
1963	790	784	1,574	190	297
1962 .....	....	....	1,179	321	345
1961	640	608	1,248	205	292

Therapeutic Radiology

	1963	1962
New Patients treated with X-ray, Cobalt 60 or Cesium 137	687	654
Patients re-treated with X-ray, Cobalt 60 or Cesium 137	307	305
Patients treated with radium	94	60
Total Patients treated at Clinic	1,088	1,019
Treatments given by		
Cobalt 60	8,812	7,927
Deep X-ray	686	599
Superficial X-ray	1,352	1,406
Cobalt 60 and Deep X-ray		217
Cesium 137	3,305	2,025
Total treatments	14,155	12,174
Radium insertions, implants and moulds	164	110
Biopsies done at Clinic	12	65
Laboratory examinations in Clinic Laboratory	46,371	22,982
(Units of Laboratory work)		

5. (b) CALGARY CLINIC**Diagnostic Radiology**

	No. of Films	No. of Pts.	No. of Exams	Average No. of Exams per day
1963	9,301	2,392	3,522	14
1962	10,427	2,849	3,818	15.3
1961	9,020	2,899	3,231	12.8

Therapeutic Radiology

	1963	1962
New patients treated with X-ray, Cobalt 60 or Cesium 137	622	528
Patients re-treated with X-ray, Cobalt 60 or Cesium 137	198	255
Patients treated with radium	37	46
Total Patients treated at Clinic	857	829
Treatments given by		
Cobalt 60	4,527	4,461
Cobalt rotation	2,414	2,083
Cesium 137	1,869	1,889
Superficial X-ray	1,781	1,756
Total treatments	10,591	10,189
Biopsies done at Clinic	26	34
Laboratory examinations in Clinic Laboratory	16,821	16,856
(Units of Laboratory work)		

6. NUMBER OF CASES SUPPLIED WITH THE FOLLOWING SERVICES

	Out-Patient Hospital Services		Radiation Therapy	
	1963	1962	1963	1962
Edmonton	334	388	1,088	1,019
Calgary	179	154	857	829
Lethbridge	4	3	66	81
	517	545	2,011	1,929

	Diagnostic X-ray		Major Surgery		Exploratory Laparotomy	
	1963	1962	1963	1962	1963	1962
Edmonton	8,463	8,017	1,608	1,112	207	172
Calgary	2,499	2,849	845	635	115	85
Lethbridge	434	568	165	137	21	25
	11,396	11,434	2,618	1,884	343	282

	Breast Biopsies		Other Biopsies		Diagnostic Curettages	
	1963	1962	1963	1962	1963	1962
Edmonton	502	455	834	710	445	253
Calgary	339	294	791	610	186	140
Lethbridge	98	105	159	222	53	37
	939	854	1,784	1,542	684	430

	Encephalo-grams, etc.		Bronchoscopy and Esophagoscopy		Sigmoidoscopy	
	1963	1962	1963	1962	1963	1962
Edmonton	19	15	212	103	255	184
Calgary .....	.....	.....	81	41	19	13
Lethbridge .....	.....	.....	8	10	10	7
	19	15	301	154	284	204

	Cystoscopy		Investigations and Consultations		Laboratory Tests*	
	1963	1962	1963	1962	1963	1962
Edmonton	406	358	176	172	48,775	24,587
Calgary	185	151	69	62	19,488	17,631
Lethbridge	46	54	5	3	717	866
	637	563	250	237	68,980	43,084

*Units Units of Laboratory work (Dominion Bureau of Statistics)

7. Since the opening of the Clinics in 1941 the total number of examinations made is 283,930.

1962—FIVE YEAR SURVIVALS

Site	EDMONTON		CALGARY		LETHBRIDGE	
	Number Seen	%	Number Seen	%	Number Seen	%
140 Lip	291	80.4	134	83.6	57	87.7
141 Tongue	23	56.5	12	33.3	4	50
142 Salivary glands	14	35.7	18	72.2	5	80
143 Floor of mouth	6	16.7	2	100	3	0
144 Mouth Unspecified	17	47	11	36.4	2	50
145 Oral mesopharynx	9	55.5	2	0	0	0
146 Nasopharynx	13	7.7	1	100	0	0
147 Hypopharynx	3	0	1	0	1	0
148 Pharynx unspecified	3	33.3	1	0	0	0
150 Esophagus	35	2.8	13	7.7	3	0
151 Stomach	432	12.9	140	23.6	35	14.3
152 Small intestine	16	50	3	33.3	2	50
153 Large intestine	371	36.4	201	31.8	52	59.6
154 Rectum	280	35	100	34	25	28
155 Liver and biliary passages	86	2.3	17	23.5	9	11.1
156 Liver, secondary and unsuspected	27	0	12	25	6	0
157 Pancreas	97	0	27	11.1	10	0
158 Peritoneum	11	9.1	3	33.3	2	50
159 G.I. unspecified	9	0	0	0	12	8.3
160 Nasal cavity, middle ear and sinuses	9	0	5	40	3	33.3
161 Larynx	19	42.1	17	47	3	0
162 Lung, trachea and bronchus	277	5.8	7	0	23	8.7
163 Unspecified bronchus (primary or secondary)	2	0	59	11.9	0	0
164 Mediastinum	4	0	1	0	2	0
165 Thoracic organs, secondary	1	0	0	0	0	0
170 Breast	553	57.1	344	60.5	119	58.8
171 Cervix uteri	254	59.4	127	52.7	47	65.9
172 Corpus uteri	134	69.4	59	76.3	26	76.9
173 Other parts of uterus, including chorionepithelioma	1	100	2	100	2	100
174 Uterus unspecified	0	0	10	40	3	100
175 Ovary, fallopian tube and broad ligament	122	22.1	67	22.4	13	61.5
176 Female genital unspecified	21	57.1	8	75	4	100
177 Prostate	261	27.9	124	41.9	30	43.3
178 Testis	29	65.5	22	59.1	7	85.7
179 Male genital unspecified	15	60	8	75	2	100
180 Kidney	85	34.1	46	43.5	18	38.9
181 Bladder	148	41.9	102	47	31	45.2
190 Melanoma	61	54.1	17	29.4	11	72.7
191 Skin	823	80.2	608	86	247	92.3
192 Eye	23	47.8	7	57.1	1	100
193 Brain and nervous system	112	21.4	24	33.3	5	60
194 Thyroid	49	55.1	14	100	5	40
195 Other endocrine glands	5	40	1	100	0	0
196 Bone	19	47.4	9	11.1	0	0
197 Connective tissue	54	59.2	22	59.1	10	50
198 Lymph nodes secondary	25	16	27	14.8	8	12.5
199 Unspecified primary	59	5.1	16	37.5	2	0
200 Lymphosarcoma, Reticulum Cell Sarcoma	81	23.4	45	48.9	10	30
201 Hodgkin's disease	63	34.9	34	32.3	6	33.3
202 Other lymphoma	12	41.7	7	42.8	1	0
203 Multiple myeloma	22	0	2	0	1	0
204 Leukemia	108	11.1	39	20.5	8	37.5

DIVISION OF SOCIAL HYGIENE

P. L. Rentiers, M.D., Director

The year 1963 has been a particularly active one for the Division of Social Hygiene. Full-time diagnostic and treatment clinics were maintained in the three largest cities. These clinics, all under the direction of part-time physician specialists, were staffed and equipped to treat patients coming directly to the service but were also able to handle referred cases from private practitioners and to carry out the intensive epidemiological investigation essential in all proven cases of venereal disease. Through the head office in Edmonton the Division continued to operate a mobile clinic under the supervision of a male registered nurse. This unit was used in the more remote areas of the Province in a case finding role.

It was very apparent that there was a great deal more public interest in the venereal disease problem during 1963. This was true throughout both the United States and Canada, and we believe, the result of press publicity given to the rising venereal disease rates in recent years. In response to the many requests for information the Division utilized all available facilities, calling on its professional staff to furnish trained personnel as speakers to responsible organizations and providing pertinent films and literature. Continued service in the educational field was rendered to the medical school at the University of Alberta, and to several schools of nursing throughout the Province.

The statistical report for 1963 reveals that Alberta again had a rise of appreciable proportion in its gonorrhoea rate. Syphilis showed only a slight upward trend. I should like to deal with these diseases separately.

GONORRHOEA

Reported cases of confirmed gonorrhoea totalled 4,096 in 1963 (290.2 per 100,000 population) as compared to 3,561 cases in 1962 (259.9 per 100,000 population), an actual increase of 555 cases. It is my belief that this does not nearly approximate the true picture. In the 1962 Annual Report it was mentioned that any incidence figure quoted for this disease would be grossly inaccurate. Current studies would indicate that less than one in ten cases of gonorrhoea are ever reported to the Venereal Disease Control authorities. This would negate even the most efficient epidemiological efforts at control. The above figures can only serve as a guide and not as a true incidence of the disease.

In 1962 attention was drawn to the fact that the Division was carrying out a series of treatment studies in an effort to reduce the treatment failure rate in gonorrhoea. Several changes have resulted in the schedules which promise a far lessened treatment failure rate than existed under the old penicillin regime.

SYPHILIS

A total of 156 cases of syphilis were found in 1963. This compared to 134 cases for 1962, representing an increase of 22 cases. Of interest is the fact that the entire increase can be accounted for by early infectious cases (primary and secondary). The only congenital

case discovered was in a male, age 23 years. Routine blood testing continued to be the most productive method of case finding, 65 (41.7%) of the total cases reported having been found in this manner. Premarital testing accounted for only 1.3% of the diagnosed cases, but despite this low figure the Division is still completely convinced of its great value and strongly recommends retention of the legislation making premarital examination mandatory. It should be stressed that the inaccuracy of figures referred to in discussing gonorrhoea does not apply to syphilis. It is felt that the quoted figures represent an accurate total of syphilitic infections.

The invaluable assistance extended by the Ontario Department of Health and by the Laboratory of Hygiene, Department of National Health and Welfare, Ottawa, in performance and interpretation of the Treponema Pallidum Immobilization Test is gratefully acknowledged. A total of 253 specimens were submitted in 1963 resulting in confirmation of diagnosis in 81 instances.

It would appear that venereal disease may be approaching the level of the irreducible minimum and that there is little chance of improving the incidence of either gonorrhoea or syphilis with present control programs. There may be slight variation from year to year, but this does not affect the overall picture. We can only hope to maintain the present level by continuing to emphasize:

- (a) early case finding through selective mass blood testing (premarital, hospital admission, . . .);
- (b) public education aimed at motivating individuals who have exposed themselves to seek early medical care;
- (c) interviewing of diagnosed cases to locate and bring under care all possible contacts.
Some further reduction below this level might be achieved by:
 - (a) intensification of the contact tracing phase of the program which would require increased numbers of trained epidemiologists to carry out this skilled and time-consuming work;
 - (b) payment to physicians for treating proven cases of venereal infection. This would undoubtedly be a great incentive to the complete and speedy reporting of cases by them;
 - (c) positive action taken in regard to the many pressing social problems which are known to be highly correlated with the venereal diseases;
 - (d) greatly increased public education, particularly at the high school and university levels.

It is a matter of record that no infectious disease has ever been controlled by treatment alone no matter how adequate the treatment. Syphilis and gonorrhoea are no exception. Despite full knowledge of etiology, mode of transmission, and treatment methods we have been able to suppress but not eradicate these diseases. It is certain that complete control will never be achieved until some form of mass immunization can be developed. This hope for a vaccine has not been abandoned by workers in the venereal disease field.

PROVINCIAL CLINIC—118 - 11th Avenue S.E., Calgary, Alberta

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhoea (All Forms).....				1			44	19	461	45			570
Syphilis													
(Acquired—Primary)									8	1			9
Acquired—Secondary									1	6			7
Acquired—Latent									2	1			3
Type Undetermined									1				1
TOTALS				1			44	19	473	53			590
Number of Cases of Syphilis—Male 12; Female 8													20
Number of Cases of Gonorrhoea—Male 505; Female 65													570
Number and Results of Serological Tests for Syphilis							7,095	of which		181	were	Reactive	
Number and Results of Darkfield Examinations							6	of which		2	were	Positive	
Number and Results of Cerebro-spinal Fluid Tests							5	of which		0	were	Positive	
Number and Results of Bacteriological Tests for Gonococci							2,856	of which		527	were	Positive	
Number and Results of Cultures taken for Gonococci							605	of which		11	were	Positive	
Total Number of Patient Visits							10,867						
Total Number of New Admissions							1,337						
Total Number of Old Infections for Follow-up First Time in Current Year—													
Syphilis											45		
Gonorrhoea											77		

PROVINCIAL CLINIC, c/o Lethbridge Municipal Hospital, Lethbridge, Alberta

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhoea (All Forms).....							2	11	64	15			92
Syphilis													
(Acquired—Primary)									1				1
Acquired—Latent									2				2
TOTALS							2	11	67	15			95
Number of Cases of Syphilis—Male 3; Female 0													3
Number of Cases of Gonorrhoea—Male 66; Female 26													92
Number and Results of Serological Tests for Syphilis							412	of which		9	were	Reactive	
Number and Results of Darkfield Examinations							7	of which		2	were	Positive	
Number and Results of Cerebro-spinal Fluid Tests							2	of which		0	were	Positive	
Number and Results of Bacteriological Tests for Gonococci							177	of which		88	were	Positive	
Number and Results of Cultures taken for Gonococci							60	of which		8	were	Positive	
Total Number of Patient Visits							568						
Total Number New Admissions							104						
Total Number of Old Infections for Follow-up First Time in Current Year—													
Syphilis											5		
Gonorrhoea											2		

MOBILE CLINIC—Lac La Biche, McMurray, Fort McKay, Athabasca, Slave Lake Area,
Whitecourt, Valleyview, Peace River and Grande Prairie Areas, Red Deer,
Drayton Valley and Edson Areas.

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhoea (All Forms).....							5	1	3				9
Acquired—Primary								1					1
Acquired—Secondary									2				2
Acquired—Latent								3	1				4
TOTALS							5	5	6				16
Number of Cases of Syphilis—Male 4; Female 3													7
Number of Cases of Gonorrhoea—Male 1; Female 8													9
Number and Results of Serological Tests for Syphilis							855	of which		53	were	Reactive	
Total Number of Treatments Given							7						

DEPARTMENT OF PUBLIC HEALTH

PROVINCIAL GAOL—Fort Saskatchewan, Alberta

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhoea (All Forms)	14	52	48	163	.....	.....	277
Syphilis	1	.....	.....	.....	1
(Acquired—Primary)	1	.....	.....	1
Acquired—Secondary	4	.....	.....	4
Acquired—Latent
TOTALS	14	52	53	164	.....	.....	283

Number of Cases of Syphilis—Male 5; Female 1 6
 Number of Cases of Gonorrhoea—Male 62; Female 215 277

Number and Results of Serological Tests for Syphilis 4,309 of which 154 were Reactive
 Number and Results of Cerebro-spinal Fluid Tests 0 of which 0 were Positive
 Number and Results of Bacteriological Tests for Gonococci 89 of which 85 were Positive
 Number and Results of Cultures taken for Gonococci 2,488 of which 383 were Positive

PROVINCIAL GAOL, Lethbridge, Alberta.

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhoea (All Forms)	1	.....	6	.....	.....	.....	7
Syphilis	1	.....	.....	.....	1
(Acquired—Secondary)
TOTALS	1	.....	7	.....	.....	.....	8

Number of Cases of Syphilis—Male 1 1

Number of Cases of Gonorrhoea—Male 7 7

Number of Prisoners Admitted 2,613

Number and Results of Serological Tests for Syphilis 770 of which 22 were Reactive

SPY HILL GAOL, Calgary, Alberta

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhoea (All Forms)	6	.....	.....	.....	6
TOTALS	6	.....	.....	.....	6

Number of Cases of Gonorrhoea—Male 6 6

Number of Prisoners Admitted 2,551

Number and Results of Serological Tests for Syphilis 649 of which 13 were Reactive

PRIVATE PHYSICIANS REPORTING CASES

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhoea
(Ophthalmia
Neonatorum)	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Gonorrhoea (All Forms)	2	1	5	106	98	680	173	61	20	1146
Syphilis—Congenital	1	.....	.....	.....	1
Acquired—Primary	1	1	10	2	.....	.....	14
Acquired—Secondary	1	.....	1	1	1	3	4	3	.....	.....	14
Acquired—Latent	14	14	.....	2	.....	30
Acquired—Tertiary	1	.....	.....	.....	1
(Cardiovascular)
Acquired—Tertiary	2	1	.....	.....	3
(Neurosyphilis)
TOTALS	2	1	2	2	6	108	102	712	193	61	22	1211

Number of Cases of Syphilis—Male 36; Female 27 63

Number of Cases of Gonorrhoea (Ophthalmia Neonatorum)—Male 0; Female 2 2

Number of Cases of Gonorrhoea (All Forms)—Male 848; Female 298 1,146

Number of Doctors in the Province Receiving Consultative Service—114

NEW CASES OF SYPHILIS AND GONORRHOEA REPORTED IN ALBERTA—1963

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhoea (Ophthalmia Neonatorum)		2											2
Gonorrhoea (All Forms) ..			5		2	9	251	352	2544	852	61	20	4096
Syphilis—Congenital									1				1
Acquired—Primary							2	2	42	6			52
Acquired—Secondary			1		1	1	1	3	10	24			41
Acquired—Latent									33	20		2	55
Acquired—Tertiary (Cardiovascular)									1				1
Acquired—Tertiary (Neurosyphilis)									3	1			4
Type Undetermined									2				2
TOTALS		2	1	5	3	10	254	357	2636	903	61	22	4254

Total Cases Syphilis—Male 97; Female 59

156

Total Cases Gonorrhoea (Ophthalmia Neonatorum)—Male 0; Female 2

2

Total Cases Gonorrhoea (All Forms)—Male 2,858; Female 1,238

4,096

TOTAL NUMBER OF CASES REPORTED BY VARIOUS CLINICS OF THE DIVISION OF SOCIAL HYGIENE

Sex	Syphilis	Gonorrhoea	Totals
Male	61	2,010	2,071
Female	32	940	972
TOTALS	93	2,950	3,043

CASES REPORTED BY DOCTORS AND MILITARY AUTHORITIES

	Private Physicians	Armed Forces	Totals
Syphilis	62	1	63
Gonorrhoea (Ophthalmia Neonatorum)	2	0	2
Gonorrhoea (All Forms)	1,041	105	1,146
TOTALS	1,105	106	1,211

NEW CASES OF SYPHILIS AND GONORRHOEA REPORTED IN NORTHWEST TERRITORIES—1963

Total Number of New Cases of Venereal Disease Classified as to Sex and Age of Patient:

	Under 1 Yr.		1-4 Yrs.		5-14 Yrs.		15-19 Yrs.		20 Yrs. & Over		Age Not Stated		Totals
	M	F	M	F	M	F	M	F	M	F	M	F	
Gonorrhoea (All Forms) ..				1			9	9	132	21	6	1	179
TOTALS				1			9	9	132	21	6	1	179

Number of Cases of Syphilis—Male 0; Female 0

0

Number of Cases of Gonorrhoea—Male 147; Female 32

179

REPORT OF THE PROVINCIAL LABORATORIES

R. D. Stuart, M.D., Director

During 1963 the Provincial Laboratories carried out 949,664 examinations, 159,015 more than 1962. Such an increase, of approximately 20%, suggests a very considerable growth in the work of the laboratories. This is confirmed by the corresponding increase of 19% in total units of work as calculated by the system used by the Dominion Bureau of Statistics. Last year the increase was most evident in the Calgary Laboratory but this year it is somewhat more significant in Edmonton. Undoubtedly desirable expansion in some lines of investigation carried out in the Calgary Laboratory has been limited by shortages of space and of suitable staff, but nonetheless the total contribution of the two laboratories to diagnostic medicine and to public health is very large. Nor is it confined to purely Provincial concerns since 8.9% of the whole work load is now taken up in examinations of material from Federal sources, chiefly from Indian Health agencies, Federal Parks, the Yukon and Northwest Territories.

SPECIAL TRENDS

Unexpected in our present age is the great increase in examinations for Diphtheria carried out in both laboratories. Since infected individuals were found mainly in Indian and Metis populations, often in large school groups, investigation of their contacts has necessitated examination of many thousands of throat swabs. The total work may seem out of proportion to the infections detected. Dr. Shute records 26 cases from the Peigen Indian Reserve at Brocket, 28 from Fort Macleod, 13 from the Blood Reserve at Cardston and sporadic cases at Bassano, Drumheller, High River, Magrath, Taber and Vauxhall. In Edmonton 28 persons from Goodfish Lake were found infected, 21 from Hobbema, 8 from Vilna, 4 from St. Paul, 3 from Wetaskiwin, 2 from Edmonton, 2 from Bonnyville and 1 each from Fort Macleod and Magrath. In addition, 15 infected persons were discovered in Inuvik. The majority of these persons were probably carriers or were suffering from minor clinical disease but nonetheless they represent what appears to be an increasing reservoir of virulent Diphtheria within this Province and indicate the source of small outbreaks such as that recorded by Dr. Adler in the Annual Report of the Chinook Health Unit. There, 8 cases of Diphtheria were encountered — all of them being of a very virulent type — with one fatality. Fatal cases are known to have occurred elsewhere in the Province and it seems that it is only the very adequate immunization status, maintained at least among school children, which prevents this ominous situation getting out of hand.

The increased percentage of cultures positive for gonococci, to which attention was drawn in last year's report, is now explained by the discovery that this organism has developed an increased resistance to penicillin. Although this resistance was comparatively minor, and thus difficult to detect by routine laboratory procedures, it was sufficient

to render current treatment ineffective. For a brief period at the beginning of the year the Edmonton Laboratory had to issue, with each report, a special slip indicating the possible lack of reliability of antibiotic sensitivity reports. It was soon found possible however, to correlate treatment failures with a specific degree of penicillin resistance and to make appropriate adjustments in laboratory techniques to estimate this.

The preceding trends appear to be retrograde. Fortunately, it is possible to note a further trend with more favourable implications. In the examination of water specimens the percentage of waters found "Bacteriologically Unsuitable" has continued to fall. In the Edmonton area, this fall has been continuous over the last 8 years, from 18.9% in 1955 to 4.4% in 1963. In Calgary, the corresponding percentage has fallen from 40% to 16.7% but with greater irregularity. Although part of the decline may be due simply to a shift in emphasis on the kinds of water examined, because properly organized areas undoubtedly tend to carry out more tests on good water supplies to maintain quality control, yet almost certainly it does indicate some real progress in the improvement of Provincial water supplies.

NEW OR SUPPLEMENTARY SERVICES

The exfoliative cytology service continued to expand in both laboratories. In Calgary, expansion was limited by a shortage of technicians trained in this field but nonetheless Dr. Shute reported 69 instances of suspected early cancer in the 4,853 specimens processed. The suspicion was later confirmed by more detailed methods in 66 of these cases. In Edmonton, Dr. Macgregor notes that the planned expansion in cervical cytology was more than justified by the very evident demand for this service. Smear examinations increased from 7,984 in 1962 to 19,975 in 1963. From past experience it is expected that at least 100 cases of cancer of the cervix will have been detected by this screening test and 50 of these will be cases in which there was no clinical suspicion of cancer. The final figures will not be known until all suspected cases are proven by biopsy and necessary follow-up examination but the probable detection of 50 unsuspected cases of cancer of the cervix in a curable pre-invasive stage makes the value of the service very evident.

Since the provision of technicians with experience in this new and exacting field is an essential part of the development of such a service, a training program has been developed under the direction of Dr. T. A. Kasper. During the year, 3 technicians received training in cytology over a period of 6 months. One of these was trained for Dr. Shute in the Southern Branch in Calgary, where she will take up her duties early in 1964. This training program will have to be continued to maintain an adequate supply of trained personnel.

REGULAR SERVICES

Pathology

The number of histological examinations of tissue removed surgically continues to increase in both laboratories. For this type of examination there appears to be a certain critical volume where efficiency rapidly falls if the examinations continue to be carried out by one team. This critical point appears to be rapidly approaching in both laboratories

and will be watched with concern. A more equitable distribution of much of this material to adequate regional laboratories would be very welcome. To this end, reference facilities of the Provincial Laboratories will always be available, as indeed they are currently. Dr. Macgregor points out in his annual report, that 34 cases were referred to his Division for opinion by other pathologists in the Province, and that he holds weekly conferences with all the pathologists in the City of Edmonton to review difficult cases. This is an exceedingly important aspect of the contribution of the Pathology Division to the maintenance and improvement of the quality of pathological services in the Province.

The Ortho pregnancy test has now been accepted as a reliable method of pregnancy diagnosis. Parallel tests with the previously used frog method were in favor of the Ortho test both in convenience and reliability. This method is now adopted as a standard routine.

Bacteriology

The prophecy made in 1962 that *S. thompson* would soon fall in importance as a cause of bacterial food poisoning has now been conclusively fulfilled. This year it took third place behind *S. typhi murium* and *S. heidelberg* in isolations from such cases. The overall decline in isolations of food poisoning *Salmonellas* — from 524 in 1962 to 344 in 1963 — is probably of real significance as it is associated with the recent great emphasis on the sanitary control of dried egg products. The small outbreak of *Salmonella* food poisoning recorded by the Wetoka Health Unit and traced to egg-albumen meringue powder indicates that only continual and increasing vigilance will remove this menace.

Dysentery, mainly of the Flexner type, continued to maintain its endemic position in the Province. No particular epidemic was encountered but the very high incidence, particularly in some Indian populations, is disturbing.

Enteropathogenic coliform bacilli continue to become more important in the causation of infantile disease and there is greater medical awareness of the problem. 4,337 specimens were investigated in the Edmonton Laboratory for such organisms. 326 were positive. Serotype 0119 predominated in isolations and many strains showed high antibiotic resistance, though all but three were sensitive to Neomycin. The enteropathogenic serotype which caused such a high mortality in Newfoundland was scarcely ever found in Alberta and Neomycin resistance, which deprived the Newfoundland clinicians of such a valuable therapeutic weapon, did not become prominent in any serotype.

The importance of the Mycological Reference Laboratory in Edmonton is again emphasized this year by the inclusion of a special Table on its findings. The vast variety of fungal infections which can be established in the human being is readily apparent. Fortunately, systemic mycosis, which is the most severe form of such disease, is unlikely to become significant in Alberta. Of considerable moment, however, is a review of the findings of this department in relation to human ringworm over the past 5 years. During this period only 44 cases of *M. audouinii* infection were recorded. This organism is the only one which causes epidemic ringworm liable to spread from child to child in school. During the same period, 1958 to 1962, 1,113 strains of animal

origin, *M. canis*, *Tr. verrucosum* and *Tr. mentagrophytes* — 257, 286 and 570 respectively — have been isolated from humans. Animal strains undoubtedly cause human ringworm but have never been proved conclusively to spread from case to case. The implication of such findings and the importance of the conclusive mycological identification of the parasite can readily be understood in situations like the large epidemic of ringworm in school children which caused so much difficulty and concern to the Medicine Hat Health Unit this year.

Virology

The increasing demand for virological diagnostic services is indicated in the 34.2% increase in examinations carried out. No important respiratory epidemic was encountered during the year but a sharp outbreak of Western Equine Encephalomyelitis (WEE) in the southeast of the Province emphasized the importance of virological investigation of patients with infective disease of the central nervous system. Of 108 such patients, from which specimens suitable for investigation were received, 61 were conclusively diagnosed in this laboratory, 20 by serological tests and 41 by virus isolation. Of great interest is the relatively minor role that the WEE virus played in this accumulation of cases of suspected encephalomyelitis and aseptic meningitis. 6 cases were identified as due to WEE, 11 cases to mumps and 19 cases to Cocksackie A 23. The specific role of the last virus is conclusively proved by its isolation from cerebro-spinal fluid in almost half the cases. 14 isolated viruses still remain to be identified and may include still more strains of Cocksackie A 23. The sharp rise in isolations of this virus in 1963, over the 5 isolated in 1962, and its wide distribution, as indicated by the sources from which specimens were received, suggest that this Province suffered a considerable outbreak of such infection during the year. It can confidently be assumed that the severe cases with central nervous system involvement represent only a very small fraction of the total number of people suffering some form of this virus disease.

In 1963, 3 strains of Polio I and 5 strains of Polio III were isolated. Some of these came from patients and some from sewage but all strains are considered to be Sabin vaccine strains and not related to active disease. In 1962, 7 strains of Polio virus were isolated, 4 of them from certain cases of Poliomyelitis.

STAFF

Dr. N. J. Ball joined the staff of the Southern Laboratory on 1st September. His appointment is a temporary one to replace Dr. E. P. Crichton who is on one year's leave of absence for the purpose of post graduate study in the United Kingdom. In Edmonton, Miss Yvonne Goodman, B.Sc., was promoted from Laboratory Scientist to Assistant Bacteriologist on May 1st, 1963. Miss Goodman is expected to obtain her M.Sc. degree in 1964 and her more senior position is indicative of the greater degree of responsibility she is effectively taking in the quality control of diagnostic routine and in technician training.

DEPARTMENT OF PUBLIC HEALTH

TABLE 1
EXAMINATIONS PERFORMED IN THE PROVINCIAL LABORATORIES
YEAR 1963

CONTROL OF COMMON INFECTIONS	Edmonton	Calgary
Diphtheria	16,009	9,744
Enteric-dysentery	16,704	2,756
Fungus infections	5,319	1,177
Intestinal parasites	1,190	112
Naso-pharyngitis	21,696	5,454
Tularaemia serology	1,117	538
Tuberculosis	19,815	3,043
Undulant fever serology	1,117	538
Whooping cough	84	23
 OTHER DIAGNOSTIC AND MISCELLANEOUS		
Animal inoculations (other than T.B.)	514	145
Antibiotic etc. sensitivities—disc	316,942	109,815
quantitative	5	.....
Blood cultures	1,515	177
Leptospirosis	168	.....
Miscellaneous	31,558	11,160
Paul Bunnell test	1,322	688
P.M. Bacteriology	454	.....
Referred cultures	3,493	25
Referred investigations	14,225	160
Trichomonas	17,358	1,413
Virus infections	26,839	.....
 VENEREAL DISEASE CONTROL		
Chancroid etc.	2	.....
Gonorrhoea—Smears	3,446	5,675
Cultures	18,010	1,258
Syphilis	117,500	45,300
 SANITARY BACTERIOLOGY		
Food Products	126	70
Water	22,241	12,133
Restaurant Hygiene	257	22
Milk and Cream .....	.....	114
 PATHOLOGY		
Diagnostic cytology—blood smears	196	138
cervical smears	19,975	4,578
bone marrows	69	6
fluids	996	275
Routine diagnostic histology	32,537	7,963
Routine autopsy histology	11,356	333
Pregnancy diagnosis	666	.....
	<u>724,831</u>	<u>224,833</u>

TABLE 2
CONTROL OF ENTERIC-DYSENTERY INFECTIONS

EXAMINATIONS	Edmonton	Calgary
Blood and Clot cultures	967	491
Faecal Cultures	9,482	1,472
Urine Cultures	18	8
Other Examinations	723	53
Serological Tests	1,083	538
DETAILS OF ISOLATIONS		
SALMONELLA		
S. typhi	7	4
S. paratyphi B	5	5
S. typhi murium	114	46
S. heidelberg	47	8
S. thompson	39	4
S. montevideo	15	9
S. oranienberg	15	4
Other	31	12
SHIGELLA		
Sh. flexneri	398	35
Sh. sonnei	20	
ENTEROPATHOGENIC E. COLI		
O111:B4	82	
O26:B6	42	
O119:B14	92	
Other	84	

TABLE 3
CONTROL OF TUBERCULOSIS

EXAMINATIONS	Edmonton		Calgary	
Microscopic	9,432		1,395	
(Positives)	293		12	
Cultures	8,579		990	
Animal Inoculations	1,804		658	
SPECIMENS	No.	Positive	No.	Positive
Pulmonary	6,992	455	1,187	9
Meningeal	115	13	23	....
Renal	1,431	71	330	2
Other	906	37	264	1

TABLE 4
CONTROL OF SYPHILIS

	Edmonton	Calgary
CEREBRO-SPINAL FLUIDS—Wasserman (Kolmer)	1,449	1,034
BLOODS—		
Presumptive Kahn or VDRL	102,651	32,850
Standard Kahn .....	.....	5,565
Quantitative Kahn or VDRL	2,083	286
Wasserman (Kolmer)	11,317	5,565
Blood and cerebro-spinal fluid 'positive' to reaction	620	262
Blood and cerebro-spinal fluid giving reaction below laboratory diagnostic level	1,698	960
PRE-MARITAL BLOODS submitted according to		
Provincial Regulations	12,536	8,262
Positive to reaction	6	6

TABLE 5
SANITARY CONTROL WATER

	Edmonton	Calgary
Water (No. of specimens)	10,490	4,929
Coliform Test—Presumptive	10,490	4,929
Confirmed	3,235	978
Special	196	1,256
Plate count	8,320	4,970
Waters considered bacteriologically unsuitable	365	832

TABLE 6
MYCOLOGY CENTRAL REFERENCE LABORATORY
STATISTICS FOR 1963
(1962 Figures in Brackets)

Total Specimens Examined	5,319	(5,801)
Skin, Hair and Nail Specimens	1,786	(1,558)
Frequency of isolation or identification of certain pathogens:—		
Trichophyton mentagrophytes	177	(125)
Trichophyton verrucosum	55	(86)
Trichophyton rubrum	92	(68)
Microsporum audouinii	1	(2)
Microsporum canis	46	(34)
Microsporum gypseum .....	.....	( 1)
Epidermophyton floccosum	26	(12)
Candida albicans	1,721	(2,247)
Malassezia furfur	41	(19)
Nocardia minutissima	18	(4)
Nocardia tenuis	1	(1)
Trichophyton tonsurans	1	(....)
Geotrichum candidum	5	(9)
Pityrosporum ovale	1	(....)
Aspergillus fumigatus	4	(1)
Aspergillus niger	2	(9)
Aspergillus nidulans	1	(....)
Aspergillus carneus	1	(....)
Absidia corymbifera	3	(....)
Scopulariopsis brevicaulis	2	(....)
Fusarium sp. (same patient)	5	(....)

DIVISION OF SANITARY ENGINEERING

H. L. Hogge, B.Sc., P.Eng., M.E.I.C., Director

This Division administers the Department's public environmental health program in the fields of air and water pollution; public waterworks and sewerage systems; swimming pools; sanitation inspection; plumbing inspection; and associated research and development programs.

In 1963 the general work program of the Division was continued on much the same basis as in recent years with the chief emphasis being on the review of the 'design' plans of the various proposed projects, the periodic check of 'operating' conditions, assistance in training of some associated operators, and the investigation of complaints and operating problems.

The air and water pollution control facilities of five new industries were reviewed and 'stack sampling surveys' at eight industries were made during the year. A paper on "Air Pollution Control in the Sour Gas Industry" was given at a Petroleum Industry Training School Course at Calgary. The air monitoring program was expanded by the addition of nineteen Exposure Cylinder Stations for H_2S and SO_2 , bringing the total to 105 throughout the province. Additional 'dustfall' stations were set out in two Edmonton areas to evaluate specific sources. The two mobile air pollution labs were operated continuously and covered 15 different areas. One unit was retained in the Pincher Creek area throughout the year as part of a continuing study of complaints. The Scientific Advisory Committee on Air Pollution, established in December, 1962, held three meetings and the various members of the Committee made a number of specific studies, all in respect of the Pincher Creek area. A summary type of meeting is proposed for early January 1964, however the information obtained up to the end of 1963 had indicated that adverse effects on persons, livestock or farm crops were not occurring.

The water pollution control program concentrated mainly on the Athabasca, North Saskatchewan, Bow and Oldman Rivers, with periodic surveys being made to determine water quality in the rivers and the quantity and quality of the municipal and industrial waste waters released to them. The sewage treatment facilities in Edmonton are being over-taxed due to an increasing load associated with the expanding population and industries in the City. Plans were finalized during the year to provide a further sewage treatment unit; this will be a system of three 'anaerobic' and two 'storage' ponds, which will serve three major meat packing plants and the Beverly area. The population equivalent of the sewage flow to be handled here is estimated at 100,000 people and thus will be a very substantial reduction in the load handled by the Main Sewage Treatment Plant.

In 'Municipal Engineering', 140 trips were made to municipalities in the inspection of waterworks and sewerage systems and as assistance to operators on specific problems. Three 'Operators' Schools' were held with 168 persons attending. Five new waterworks and four new sewerage systems were constructed in seven municipalities during 1963, to bring the total waterworks and sewerage systems in operation to 208 and 218, respectively. Also 'Draft' copies of a set of Design Standards for Waterworks and Sewerage Systems, as well as revised Design Standards for Swimming Pools were prepared during the year.

The work in the Division's Pollution Control Laboratory continued to increase this year by 21.5% over last year and to a level of 120% over 1960. Increasing numbers and types of industries in the province necessitate that greater numbers and types of analysis be made on both water and air samples.

Sanitary Inspection has been continued on much the same basis as in recent years. Special work was done by the staff on swimming pool operation and also inspection of industrial users of radioactive materials.

Plumbing Inspection staff was increased by one this year, bringing the total to five. Inspectors are located, one each at Lethbridge and Red Deer and three in Edmonton. The inspectors lectured at ten 'farm' schools outlining the important points of farm plumbing systems. Increased development activity in the northern part of the Province has required additional work on the part of both the Sanitary and Plumbing Inspectors this year and it is expected that this trend will continue for a number of years.

The 'Research Study' of the operation of sewage ponds in Alberta was continued with specific studies being made at Medicine Hat and Wetaskiwin on operating problems. Observations were made at thirteen systems, nine being part of the continuing study and four being checked only once or twice. The work this year has confirmed that the 'anaerobic' ponds give a good degree of treatment, 50 - 70% B.O.D. removal, and under normal loading conditions do not create adverse odors. The combined system of four 'anaerobic' ponds followed by two 'aerobic' ponds continue to give a very high degree of treatment in the summer season.

The secretarial staff of the Division was increased by one this year for a total of four. Also Mr. D. Reid commenced employment with the Division in September, 1963 as 'Administrative Clerk'.

An outline of the work of each section in the Division is presented below.

A. AIR AND WATER POLLUTION CONTROL

During the year of 1963 work carried out in the Air and Water Pollution Control Section was directed at controlling the pollution from new industrial plants locating in Alberta, assessing and reducing the pollution from various industrial operations and municipal sewerage systems already existing in Alberta, and assessing the degree of pollution present in various rivers and streams and in the atmosphere.

1. Air Pollution

The staff in this sub-section consists of two engineers (one vacancy present at this time) and four laboratory technicians, all supervised by the 'Head' of the section. This is an increase of two positions over the previous year.

The activities of this section are summarized as follows:

(a) Operation of Mobile Laboratories

As in the foregoing year, two mobile air pollution detection units were operated on a continuous basis within the Province. These units are used to investigate complaints and to observe general air pollution levels in the vicinity of gas processing plants and in oil field areas. Surveys were carried out at eight different areas with one area being re-

surveyed at the same location and in another area seven different locations were surveyed. An intensified program was carried out in the Pincher Creek area where one mobile unit was operated at one location for the full year and the other mobile unit was operated at six different locations from the beginning of the year to mid-May. A total of fifteen separate surveys were carried out during the year, comprised of 687 observation days of which 455 days were in the Pincher Creek area. A total of 43 observation days were lost due to moving the units, mechanical difficulties, annual repairs, etc.

(b) Exposure Cylinder Surveys

In 1963, nineteen new exposure cylinder stations were established bringing the total in operation to 105 stations in the Province. All these stations are changed on a monthly basis and analyzed in the Pollution Control Laboratory. In conjunction with the exposure cylinder stations a total of 38 dustfall samplers are maintained. This is an increase of 15 over the previous year, of which most of them were established at Pincher Creek and Coleman to study sulfur dust and coal dust problems respectively. Three atmospheric fluoride monitoring stations are also maintained.

(c) New Industry

Approval of air pollution facilities was given for five plants in Alberta after reviewing applications for their establishment. In addition, discussions and meetings were held with a number of companies who are planning new plants or expansion of their present activities in the future.

(d) Incinerators

A preliminary set of design standards was established for refuse incinerators and circulated to interested parties for review and comments which are to be used to set up final standards.

In addition to this, 25 applications for refuse incinerators were reviewed, of which 21 were given approval for installation.

Preliminary work was carried out in order to set design standards for wood waste incinerators.

(e) Studies of Pollution Sources

Eight stack sampling surveys were carried out during the past year at five different plants in Alberta. Three of the surveys were carried out at sulfur plants for sulfur dioxide, while the other five surveys were for particulate matter. Of the five particulate surveys, two were done at the Inland Cement Company in Edmonton and the other three were at the Coleman Collieries coal drying plant at Coleman.

In addition to the surveys above, a number of Ringelmann Density Chart readings were taken at different incinerators in Edmonton and an observation study was carried out from the roofs of the Administration Building and City Hall to establish a list of smoke and dust contributors to atmospheric pollution located in Edmonton.

(f) Effect of SO₂ Upon Vegetation

The study of the effect of SO₂ upon vegetation was continued as in past years to supplement previous years' data. The vegetation samples were obtained through the co-operation of the Department of Lands and Forests who collected some of the samples, while the remainder was

picked up by the Department of Public Health, Division of Sanitary Engineering. A total of 359 samples were obtained and analyzed for sulfur.

To further study the effects of SO_2 on vegetation, 31 soil samples were analyzed for sulfur content to see if any correlation could be obtained.

(g) Corrosion Study

The study of the rate of metal corrosion in oil field and other areas was continued this year. This study is being carried out in co-operation with Alberta Government Telephones. Samples of the previously exposed wires were re-exposed with the addition of a few more test samples.

(h) Miscellaneous Samples

The monitoring of the atmosphere for oxides of nitrogen and oxidants was continued this year in Edmonton with automatic instruments and the operation of a manual oxidant sampler was also continued. Smoke concentration observations were also carried out in Calgary and Edmonton as in the past years. Hi-volume samplers have been employed in Edmonton and Calgary under a general sampling program and special problems were investigated with the Hi-volume samplers at Pincher Creek and Coleman.

(i) The Scientific Advisory Committee on Air Pollution met on three occasions to evaluate the occurrences and effects of air pollution in the Pincher Creek-Waterton areas.

(j) Twenty-one complaints of air pollution were investigated, studied and solutions recommended where complaints were verified. Of the 21 complaints, 16 were in the Edmonton area and 5 were in other areas.

(k) Calibration of atmospheric monitoring apparatus was started in the past year.

2. WATER POLLUTION

The staff conducting water pollution investigations consists of one engineer and one laboratory technician, both supervised by the 'Head' of the Section.

As in foregoing years, the water pollution control program was concerned with routine sampling surveys on the major rivers in the Province and with regulatory investigations with regard to municipal and industrial wastes.

During the winters of 1962-63, and 1963-64 to date, the focal point of work in this section has been the North Saskatchewan River and its associated industries.

Immediately following the winter of 1962-63 and the breakup of the various rivers in the Province, controls were exercised on the disposal of ponded industrial and domestic wastes.

From late spring to early fall of 1963, the Division worked in co-operation with the Fish and Wildlife Branch of the Department of Lands and Forests in a special survey of the Bow River.

During the fall, three separate week-long surveys were made on the Oldman River and its associated industries. Special emphasis was

placed on Lethbridge domestic waste and waste waters from sugar factors at Picture Butte and Taber.

In the early part of the winter of 1963-64 devices for measuring the level of organic contaminants in river waters were set up on the North Saskatchewan River at Fort Saskatchewan and on the Bow River at Bassano.

A special study was initiated in the latter part of 1963 on the treatment of a chromate corrosion inhibitor which is becoming more commonly used in cooling waters in industry.

The following is a general outline of the work performed during 1963 in the stream pollution sampling program:

Rivers

1. North Saskatchewan River—During the winter of 1962-63 this stream was grab sampled two to three times weekly in the Edmonton - Fort Saskatchewan area and weekly at three locations between Fort Saskatchewan and Lloydminster. Water from the Brazeau Reservoir and the North Saskatchewan River near Drayton Valley was sampled once during the latter part of the winter of 1962-63 and again during the winter of 1963-64.
2. Bow River—In addition to an extensive biological study by the Fish and Wildlife Branch of the Department of Lands and Forests during the summer of 1963, this Division carried out three separate week-long and one two week long surveys. Most of the study was concerned with that portion of the Bow River between Calgary and the Carseland Irrigation Dam.
3. Oldman River—This river was subjected to four separate week-long surveys, one during the winter of 1962-63 and three during the fall of 1963 and early winter of 1963-64.
4. Athabasca River—Sampled monthly at various locations from Hinton to Athabasca during the winter of 1962-63 and again during the late fall of 1963 and the winter of 1963-64. Samples were taken at Hinton on four occasions during the summer.
5. Red Deer River—During the last half of the winter of 1962-63, this river was composite sampled once at Red Deer, grab sampled from Sundre to Drumheller on one occasion, and grab sampled once again at Red Deer. Composite samples were taken at Red Deer early in the winter of 1963-64 and on this same occasion the river was grab sampled as far as Drumheller.
6. Blindman River—Grab sampled in the Rimbey area on two occasions during the spring of 1963 and on two occasions during the first half of the winter of 1963-64.

Industries

1. Canadian Chemical Co. (Chemcell Ltd.)—One 24 hour sampling survey during the early part of 1963 and four grab sampling surveys throughout the remainder of the year.
2. Canadian Industries and Building Products — One composite sampling survey early in 1963 and three grab samples throughout the remainder of 1963.
3. Naugatuck Chemicals—Five grab samples taken at various times throughout 1963.

4. Edmonton Oil Refineries—One 24 hour composite sampling survey early in 1963 and three grab sampling surveys throughout the remainder of the year.
5. Sherritt-Gordon Mines—Three 24 hour composite sampling surveys during the last half of the winter of 1962-63 and three grab sampling surveys throughout the remainder of the year.
6. Dow Chemical—One 24 hour composite sampling survey in early 1963 and three grab sampling surveys.
7. Edmonton Barrel—Five grab sampling surveys since plant began operations in the spring of 1963.
8. Calgary Oil Refineries—One composite sample from Imperial Oil Ltd. and one grab sample from B.A. Oil Ltd. during the latter part of the winter of 1962-63.
9. Southern Alberta Canneries—Two surveys during the fall of 1963.

Sewage Effluents

1. Edmonton Sewage Treatment Plants—Sampled weekly during the winter of 1962-63. One 24 hour composite sampling survey during early 1963. During the winter of 1963-64, the Main Sewage Treatment Plant was sampled weekly, while samples were occasionally taken from the No. 3 Sewage Treatment Plant.
2. Calgary Sewage Treatment Plant—Two 24 hour composite surveys early in 1963 and a one week survey at the Main Sewage Plant during late summer.
3. Southern Alberta Sewage Treatment Plants—Plants at Lethbridge and Taber were sampled once during the last half of the winter of 1962-63 and on three separate occasions during the fall of 1963 and the winter of 1963-64.

B. MUNICIPAL ENGINEERING

General

The duties of this section have been carried out by three engineers. The work load is gradually changing from checking plans of water and sewer projects to that of assisting the operator with his specific problems. Considerably more time is being spent at the plant site assisting the operators of water and sewage plants with their problems and encouraging better and more effective methods of operation. We have endeavoured to keep our records up to date on various aspects of public waterworks and sewerage systems. During 1963 we managed to visit 140 of the 234 communities in Alberta that have water and/or sewerage. A large number of these communities were visited more than once during the year to follow up some particular problem. These places included:

for sewerage—Wetaskiwin, Thorsby, Bruderheim, Medicine Hat and Evansburg;

for waterworks—Blairmore, Chipman, Coleman, Crossfield, Eckville, Fort Macleod, Holden, Granum, Hillspring, Kinuso, Milk River, Rocky Mountain House, Spruce Grove and Thorsby.

There have been a number of water and sewage samples collected by this section and analyzed by our own Pollution Control Laboratory. A breakdown of these tests is shown in the following table.

Type of Sample	River, Tap, Well, etc.	Drinking Water for Fluorides	Sewage	Miscellaneous
No of Samples Tested	39	32	38	4

The total number of samples is 113 and represents approximately 10% of the Pollution Control Laboratory output.

Schools

The annual school for operators of waterworks and sewerage systems was very successful. Three of the four schools were held this year with attendance of 48, 50 and 70 for the First Year, Second Year and Graduate Schools respectively. Attendance figures to date for these schools are as follows:

(a) Completed 1st year course	305
(b) Completed 2nd year course	210
(c) Completed 3rd year course	136
(d) Completed graduate course	86
(e) Number of different systems represented	158

Representatives from such distant places as Fort Smith and Inuvik in the Northwest Territories and Coutts and Medicine Hat in Southern Alberta were in attendance.

Waterworks and Sewerage Systems

The following tables give information on the 1963 waterworks and sewerage system construction.

1. New Systems

	Provisional Certificates		Final Certificates	
	No. Issued	Estimated Cost	No. Issued	Estimated Cost
Water	10	\$ 634,154	7	\$ 387,957
Sewer	8	446,283	6	393,160
Total	18	\$1,080,437	13	\$ 781,117

2. Extensions to Existing Systems

	Provisional Certificates		Final Certificates	
	No. Issued	Estimated Cost	No. Issued	Estimated Cost
Water and Sewer				
Mains	16	\$ 7,369,560	90	\$5,631,504
Water Supply and Treatment	11	2,137,300	17	1,148,508
Trunk Sewers and Treatment	14	1,910,148	10	348,913
Storm Sewers	4	1,512,700	16	908,803
Total	45	\$12,929,708	133	\$8,037,728
Grand Total (1 and 2)	63	\$14,010,145	146	\$8,818,845

There were 212 certificates issued, of these 3 were superseded. The valid certificates issued included 63 provisional certificates and 146 final certificates.

The table below shows the estimated spending on water and sewer construction for the years 1953-63 inclusive. Also shown are the number of final certificates issued which give an indication of the number of submissions for this work in the province.

Year	No. Issued	Estimated Cost	Year	No. Issued	Estimated Cost
1953	97	\$12,465,396	1959	160	\$15,733,142
1954	109	16,455,810	1960	189	16,820,264
1955	107	17,524,020	1961	172	18,876,977
1956	99	15,803,965	1962	184	9,427,465
1957	110	11,430,812	1963	146	8,818,845
1958	132	9,795,223			

On December 31, 1963 there were 234 communities in Alberta with waterworks and/or sewerage systems — 192 of them have both systems. There were 208 waterworks systems and 218 sewerage systems in operation at this time, an increase of 5 and 4 respectively over 1962 figures.

The communities in which waterworks and/or sewerage systems were installed this year are:

	Systems	
	Waterworks	Sewerage
Andrew	1	-
Arrowwood	1	-
Elнора	-	1
Fort McMurray	1	1
Glendon	-	1
Mossleigh	1	-
Strome	1	1

Fluoridation

The fluoridation of public water supplies continued to grow at a slow pace. The following table shows various aspects of this program.

Community Fluoridating	No. of People Served (1963)	Date Installed	Chemical Being Used	Annual Cost/capita Cents*
Athabasca	1,524	Aug./62	Sodium Fluoride	10.3
Coaldale	2,592	Dec./63	Hydrofluosilicic acid	...
Bonnyville	2,124	Dec./61	"	7.4
Devon	1,423	Aug./59	Sodium Silicofluoride	5.4
Fairview	1,701	May/58	Sodium Fluoride	6.8
Fort Saskatchewan	3,642	Sept./62	Sodium Silicofluoride	3.3
Grande Prairie	9,707	July/59	"	3.1
Innisfail	2,361	July/60	"	2.1
Leduc	2,839	June/62	Sodium Fluoride	5.4
Milk River	829	"	"	...
Peace River	3,209	Feb./63	Sodium Silicofluoride	...
Red Deer	23,106	June/58	"	4.0
St. Albert	6,880	Apr./62	"	4.1
Ralston	2,000	(Est.) Jan./63	"	...
Total Population	63,937		Average Cost	5.2

*These annual costs are for chemical only. Depreciation of equipment and costs for time and test reagents must be added for total cost.

Regulations and Standards

The booklet "Recommended Standards for Sewerage Systems and Sewage Treatment Plants" was revised this year. Not only were there changes made to the booklet regarding sewerage but a new section was added on water supply. The purpose of this bulletin is to provide information regarding standards governing design, preparation and submission of reports, plans and specifications for waterworks and sewerage systems. Before the booklet goes to print, mimeographed copies will be sent to consulting engineers in Alberta, working in the field of sanitary engineering, for their comments.

The regulations respecting swimming pools and bathing places underwent revision this year. It was felt that the swimming pool industry was changing so quickly with design and available equipment that the regulations should be made more flexible. The number of regulations as such, are kept to a minimum to cover the essential requirements and a complementary set of design and operating standards fulfil the desired purpose of the original regulations. With this arrangement it will be possible to keep pace with the industry by making appropriate changes to the design and operating standards subject to the approval of the Provincial Board of Health.

Swimming Pools

Approvals were issued for 25 new swimming pools. The type and number of pools are shown in the table below.

Number of Approvals	Public Pools		Clubs	Semi-Public Pools	
	Indoor	Outdoor		Hotels	Apartments
	2	4	5	8	6

Other Areas

Participation by engineers of this section in related work sponsored by other groups has been limited this past year, but included the following:

1. Presenting 'lecture' papers at a "Swimming Pool Management Seminar" sponsored by the Provincial Recreation and Cultural Development Branch, and at a "Short Course on Groundwater Geology and Hydrology" sponsored by the Alberta Research Council.
2. Attendance at the Western Canada Water and Sewage Conference.
3. In-Service training was limited to one engineer's attendance at the above mentioned "Short Course on Groundwater" and one engineer took a single course in "Botany" (Algae) at the University of Alberta.

C. POLLUTION CONTROL LABORATORY

The Pollution Control Laboratory carried out the chemical analysis of samples pertaining to the Air and Water Pollution programs and the Municipal Engineering program. The number of samples analyzed were:

1. STREAM POLLUTION		No. of Samples
River Water		281
Carbon Filter		1
Industrial Waste		143
Sewage		95
Miscellaneous		59
Total		579
2. AIR POLLUTION		No. of Samples
SO ₂ —Cylinders		1,094
H ₂ S—Cylinders		1,091
Dustfall Samples		336
Hi-Volume Samples		91
Fluorides		24
Calcium in dustfall		129
Total Oxidants		237
Sulfur in dustfall		89
Total sulfur in vegetation		359
Sulfate in soil		31
Miscellaneous		46
Total		3,527
3. MUNICIPAL ENGINEERING		No. of Samples
River, well, tap water		39
Fluoride		32
Sewage		38
Miscellaneous		4
Total		113
Overall Total		4,219

This overall figure shows an increase of 39% in comparison with the year 1962 on the basis of 1960:

Year	1960	1961	1962	1963
% analyzed samples	100	150	181	220

In addition to the work mentioned above, the following special studies were carried out:

1. The method of determination of sulfur in dustfall and on plants was improved.
2. The determination of the total amount of organic compounds in drinking water was carried out. In connection with this, methods for purification of available organic compounds to a residue after evaporation of less than 5 mg. per liter were developed.
3. With respect to the Municipal Engineering, two surveys were carried out to check the ability of the municipalities in testing fluoride contents in water. Water samples of different fluoride concentrations were prepared and tested in the laboratory.
4. Assistance was given to the Industrial Hygiene Section of the Department in 'spot' sampling and testing of phenol and formaldehyde content in the air. This survey was carried out at the Peace River Glass Co. Ltd., Fort Saskatchewan.

During the year 1963, the staff of the Pollution Control Laboratory has increased by one lab technician.

D. SANITARY INSPECTION

In 1963 there were positions for 67 Sanitary Inspectors in the Provincial Department of Public Health, City Health Departments and Health Units. Difficulty was experienced in filling some of the vacancies which occurred during the year. Fortunately, the positions which remained open for extensive periods were in Health Units which normally employ more than one inspector, thus the effect was not as serious as might otherwise have been the case. It must, however, be stated that there is a continuing problem in obtaining replacements. There is a need for a training program.

A compulsory milk pasteurization bylaw was approved by the electors of the City of Red Deer in 1963. This brings the number of cities, towns and villages having such bylaws to 41. It should be remarked that this is by no means indicative of the consumption of pasteurized milk in the Province. It is estimated that in excess of 95% of the milk retailed in the Province is pasteurized. No new milk pasteurizing plants were opened during the year and no plants closed. The number of plants in the Province remains at 71.

The Provincial Board of Health has authority for the issuing of licenses to only those food processing plants which freeze or can food products containing meat and which are not operated under federal government inspection. One such license was issued in 1963. There were other enquiries, some did not involve meat and others did not develop to active operations during the year. In view of the quantities of food produced in Alberta, it appears reasonable to anticipate a growth in all classes of food processing. A field may be developing here which will require increased health department supervision.

Local Boards of Health suspended or refused five restaurant permits during the year. Comparative figures for recent years are: 1962—8; 1961—7; and 1960—24. Permits were issued or reinstated as soon as necessary measures for the protection of public health were completed.

The three Provincial Sanitary Inspectors were engaged throughout the year in activities related to environmental health. Continuing activities included a sanitary inspection program in areas outside cities and health units and a radiation hazards protection program. Other important activities included swimming pool technical supervision, air pollution investigations, a water contamination investigation, and memberships on Boards and Committees.

A total of 643 sanitary inspections were made during the year. This may be compared with 679 in 1962. Included are inspections at restaurants and food handling establishments, milk handling premises, hotels, motels, trailer coach parks and waste disposal grounds. Also included are inspections made at public and private sewage disposal systems and at wells and other sources of public and private water supplies. In practically all cases these inspections were made outside cities and health units and assisted local authorities by providing some sanitary inspection service.

One hundred and thirty inspections were made in the radiation hazards protection program. This is somewhat less than the 231 inspections made in 1962. This reduction has been brought about as the program has entered a new phase. The problems being dealt with are in the main more complex than in previous years, so that the time spent in this activity has not been reduced. Perhaps it would be more correct to say that the backlog of simpler problems has been dealt with. An increasing number of requests were received for advice on and supervision of installations and uses of radioisotopes in industrial processes. The ability of the staff member concerned to give such assistance has helped to create an acceptance by industry of the entire control program. Two obsolete radium sources were discovered during the year with the co-operation of the inspector. These were removed from the Province for subsequent safe disposal. The inspector organized a local centre for the examination of industrial radiographers which has since been taken over by the Northern Alberta Institute of Technology. He prepared a guide for municipal police and fire fighters outlining procedures to be followed in case of road accidents involving radioactive material. An indication of the growing importance of the radiation hazards protection program would be in the fact that radioisotope licenses were issued to 23 new users in the Province during 1963. Eight establishments discontinued the use of radioisotopes in the same period, but the net gain of 15 results in a total of 80 users in the Province. The program has continued to provide the Atomic Energy Control Board with liaison and supervisory control in case of accidents and during experiments involving new applications of radioactive isotopes.

Each year new swimming pools are opened in the Province. At the end of 1963 there were 66 public pools. This does not include pools at motels, clubs and apartment buildings or in the National Parks or in summer camps. Modern swimming pools are designed and constructed to include water filtration and treatment equipment for the safety of pool users and to protect their health. If such equipment is to be effective, it must be properly operated and maintained. This requires an operator with some knowledge of the equipment and its functions. Due to the short season it is frequently not possible to employ operators with much of a background in swimming pool operation. The Sanitation Section undertook a program during the summer months of 1963 designed to ease this situation in some measure by providing assistance to pool operators to help them deal with technical problems. One inspector was

involved for seven weeks. Time did not permit carrying the service to all pools but a representative group was included. The service did not duplicate services which are Health Unit responsibilities as it was concerned with the operation and maintenance of equipment and required specialist knowledge. The experience of the summer indicates the desirability of continuing the program and expanding it if possible.

The Sanitation Section gave assistance to the Air Pollution Section of the Division. A survey of sources of smoke in the City of Edmonton was undertaken and was being completed at the year's end. This catalogue which should be as complete as possible and should be kept up-to-date will provide information on which action for the control of pollution can be based should levels of contamination become consistently significant.

In the spring of the year an investigation was made into complaints of alleged contamination of wells in a village by petroleum products. The investigating team included a Provincial Sanitary Inspector, a member of the Municipal Engineering Section and an Inspector from the Health Unit concerned. Other departments of government co-operated. The investigation revealed two areas in the village to be affected. A follow-up investigation in the fall revealed changes in the patterns of the affected areas and a marked improvement in one. A further follow-up in the spring should reveal whether this improvement is continuing. The investigation provided the Health Unit with information on which it could base advice and instruction to property owners who were affected. The investigations did not conclusively prove the source or sources of the contamination. There were histories of underground gasoline storage tanks in both areas. Information obtained indicated none of the tanks in use to be leaking. Satisfactory information could not be obtained in regard to tanks formerly in use. There appears to be need for an examination of the controls which are applicable to underground gasoline storage tanks to ensure that these are adequate to protect against similar occurrences.

Amongst the other activities of the Sanitation Section would be included health education, assistance to Health Units and staff training. The Provincial Sanitary Inspectors gave lectures and addresses on subjects related to their work to various groups on such occasions as presented themselves. At various times advice was given to Health Units to assist them in dealing with problems in the sanitation field. One of the Provincial Sanitary Inspectors assisted a Health Unit to establish a sanitary inspection program. The Chief Sanitary Inspector attended a five-day Emergency Public Health Planning Course at the Canadian Civil Defence College at Arnprior in October, 1963.

Provincial Sanitary Inspectors continued to be active on various Boards, including the Boards administering the New Towns of Lodgepole and Swan Hills and the Pembina Planning Advisory Commission. The Chief Sanitary Inspector acts as Secretary of the Provincial Board of Health. New activities in this field include the Committee on the Quality of Milk and Dairy Products established following a recommendation of the Alberta Dairymen's Association. Provincial Sanitary Inspectors are serving on two sub-committees, the Technical Sub-Committee on Microbial Quality of Milk and Dairy Products and the Technical Sub-Committee on Radioactive Fallout in Milk and Dairy Products.

Throughout the year the Provincial Sanitary Inspectors were active in a diversified program in the field of public health. They provided a

sanitary inspection service in those parts of the province not served by Health Units or City Health Departments. A radiation hazards protection program was provided for all parts of the province. Various other undertakings having a bearing on public health were carried out.

E. PLUMBING INSPECTION

The Plumbing Inspection Section of the Division of Sanitary Engineering received during 1963 a revenue of \$10,051.50 in the form of plumbing permit fees. The number of plumbing permits issued was 922. The number of plumbing fixtures installed throughout this province totalled 149,029. The value of the plumbing installed is estimated to be approximately 38 million dollars.

The number of individual types of fixtures installed was as follows:

Water Closets	39,708	Lavatory Basins	40,962
Baths	24,817	Sinks	26,168
Laundry Tubs	2,186	Special Fixtures	15,188

The number of privies eliminated as a result of plumbing being installed was 961.

During the month of August, 1963 the number of plumbing inspectors employed by this Division was increased by one when Mr. G. Whiteford joined the staff. This increase in staff has materially improved the service this Section is now able to render to the public, plumbers, architects, engineers and others who firmly rely on this inspection service and the guidance provided by the inspectors.

The Plumbing Inspectors of this Division, in co-operation with the Agricultural Engineering Branch of the Division of Extension of the Department of Agriculture, lectured at ten meetings. The attendance at these meetings was very good and the interest displayed by those attending indicates that the farmer, as well as the urban home owner, is interested in modernizing his dwelling by installing a proper plumbing system.

The Provincial Plumbing Advisory Board held two meetings during the year and studied submissions as presented by seven manufacturing and distributing firms. The firms requested this Board to examine the product distributed by the firm concerned with a view to having their product approved for use in this Province.

The Plumbing Inspectors of this Division were called upon to arbitrate disputes which developed between a local plumbing inspector and plumbing contractors. The number of such disputes arbitrated is decreasing each year as the smaller towns and villages relinquish their responsibilities regarding plumbing inspections to this Branch. This practice will increase the duties of the Provincial Plumbing Inspectors, but will certainly improve the quality of plumbing installations in these areas.

F. SPECIAL PROJECT—SEWAGE POND STUDY

This study is a second phase of a study started in 1958. On the basis of the first study, the design of ponds used in Alberta was changed and this present work is evaluating the efficiency of revised design and assessing further the design, loading and operating factors. A total of 254 samples were collected from nine systems as part of the regular program and four systems were spot checked.

The results to date indicate that the new anaerobic type of pond will give a B.O.D. reduction of 50 - 70% and do not give rise to adverse odors under normal conditions. The ponds at Medicine Hat were the cause of complaint in the spring and summer season. This was improved considerably by the addition of lime to the ponds, however the sludge loading appeared excessive and the piping to the pond was revised to give better distribution of the raw sewage and also to allow 'recirculation' of the digested sludge back to the raw sewage. This revision seems to have satisfactorily overcome the difficulty.

Sludge accumulations have been measured at four systems and results indicate that the rate of accumulation is low and thus sludge removal from the anaerobic ponds is not going to be a serious problem.

The studies on the revised design including both anaerobic and aerobic ponds continues to show a very high degree of treatment in the summer season. These systems are used where a very high degree of treatment is required and this is successfully accomplished by using the aerobic ponds for storage during the winter season and releasing the stored waters in the summer-fall seasons.

DIVISION OF INDUSTRIAL HEALTH SERVICES

H. Siemens, M.D., D.I.H., Director

This Division was organized in August 1962. From the end of August to the end of December 1962 the Director was away on studies. Much of the early part of 1963 was taken up with visits to various Departments of the Government, the Workmen's Compensation Board and the Alberta Research Council, as well as visits to the Occupational Hygiene Divisions of the Department of National Health and Welfare and of the Provinces of Ontario, Manitoba and Saskatchewan.

Systematic visits were made to a variety of industries across the Provinces to gain some familiarity with the processes involved, the hazards inherent in them and to discuss with management problems that were of concern to them. Particular attention was given to toxic substances used in industry, which it was felt could be a threat to the health of the worker. As a result of these visits it was concluded that it would be important for the Division to acquire facilities and staff that would enable us to do sampling and analyse samples to determine the concentration of such substances present in the environment. This conclusion was supported by the result of a limited survey, conducted with the assistance of personnel from the Occupational Hygiene Division of the Department of National Health and Welfare. There is no question that there is a very urgent need for such facilities throughout the Province.

For a number of years it has been felt that the use of pesticides in Alberta required closer supervision and regulations to initiate a measure of control over the commercial applicators of pesticides. Such regulations were prepared, with the co-operation of Mr. J. H. Brown of the Division of Entomology and Vector Control, for the consideration of the Provincial Board of Health.

Numerous dusts, fumes and gases are known to be hazardous to workmen when inhaled and liable to have an adverse effect on the lungs and their normal respiratory function when breathed long enough and in high enough concentrations. To secure some information regarding our status in this field of industry, a small investigative survey was designed and discussed with the Board of the Alberta Tuberculosis Association. The result was that this Board generously undertook to provide the materials and facilities to make this study. From it we hope to gain sufficient information to disclose the chief hazards, so that rational control policies may be formulated in accordance with the severity of the hazards present.

A small beginning of this survey was made just before the end of 1963. It is hoped that we may be able to complete it by about the middle of 1964.

CIVIL SERVICE NURSING BRANCH

K. E. Jorgensen, R.N.

Twenty years ago on August 9th marked the inauguration of this branch. Since that time the work and responsibilities have greatly increased. As most departments have been expanding at a tremendous rate, the staff has increased accordingly.

During the year there have been no outstanding changes initiated. We have noticed that the types of illnesses and the accidents incurred are gradually but definitely taking on a different pattern.

As in previous years the respiratory conditions were the greatest in number. Unfortunately, those suffering from overanxiety and mental depression appear to be on a definite upward trend. Those cases consume more time than any other one type of illness. Allergies with various reactions are becoming more prevalent. There is also a gradual increase in complaints of vertigo associated with weakness and exhaustion. This condition, with no apparent reason, was first noticed about six years ago, but at that time there were fewer complaints of dizziness. Oddly enough it does not seem to be confined to any particular age group or to either sex. We have noticed that both major and minor occupational accidents have declined a little.

As usual we have pursued a program of health teaching in conjunction with office calls and home visits. We encourage the employees to conscientiously try to be at their best both physically and mentally. Of course this involves self-discipline but would tend to lead to positive thinking, good nutrition, good healthy recreation along with sufficient natural sleep.

We have gratefully used the services of the Guidance Clinic and the Family Service Bureau. The Red Cross are always very willing to loan crutches, canes or wheel chairs when the need arises. To those agencies we extend a sincere 'thank you'. We also wish to express our appreciation to all who have so kindly assisted the sick and injured during the past year.

During the year approximately 82 patients were given transportation as required.

The following statistics record the year's activities:

Month	Office Calls	Home Calls	Compen- sation	Certificates
January	489	70	13	52
February	366	40	15	30
March	404	36	13	25
April	461	105	13	67
May	457	37	13	19
June	397	18	10	8
July	389	25	5	16
August	389	24	6	12
September	396	32	11	14
October	463	52	8	34
November	467	38	6	30
December	424	62	7	34
1963	5,102	539	120	341
1962	5,085	492	121	372

DIVISION OF ARTHRITIS SERVICES

R. K. Thomson, B.Sc., M.D., R.C.P. (C.), F.A.C.P., Director

The Division of Arthritis, with clinics at 9815 Jasper Avenue, Edmonton, and 2104 - 2nd Street, S.W., Calgary, accepts patients up to the age of twenty-five years. There has been no change in policy during the year 1963.

As will be seen from the statistical report which is attached, there is no essential change in the number of new patients seen during the year. The new cases exceed the cases which became ineligible. An attempt is made, however, to keep in contact with former patients who are now ineligible due to age.

New chemical agents for the treatment of Rheumatoid Arthritis have been provided when their value and need has been established. While the amount of reconstructive surgery is not great, it might be anticipated that with the development of newer techniques, more surgical procedures will be carried out, particularly for the release of joints in the hands and for the removal of synovial membranes in larger joints.

STATISTICAL COMPILATION OF CASES TREATED IN 1963

	Edmonton	Calgary	Total
Initial examinations made	16	6	22
Repeat examinations made	67	14	81
Rheumatoid Arthritis cases in 1963—new	12	4	16
Total Rheumatoid Arthritis cases under the Division of Arthritis	121	60	181
Hospital days	484	948	1,432
Physiotherapy treatments	137	128	265

TREATMENTS

January 1st to December 31st, 1963

Hospital days	1,432
Clinic and office visits	139
Physiotherapy treatments	265
Other: including surgical, injections and special procedures	111
Total Treatments	<u>1,947</u>

DIVISION OF CEREBRAL PALSY CLINICS

**F. G. Day, B.Sc., M.D., L.M.C.C., F.R.C.S. (Glas.),
M.Ch. Orth., F.I.C.S., F.A.A.C.P., Director**

The Alberta Cerebral Palsy Clinics have functioned through 1963 with a great deal of difficulty due to shortage of staff. Rather than being relieved, the situation in Canada for physiotherapists, occupational therapists, speech therapists and social service workers has become progressively more acute. Consequently, staff shortages have decreased the over-all yearly work load. Since increasing salaries and stepping up our efforts to obtain staff, I think the situation improved a great deal towards the end of the year, and it looks brighter for 1964.

In Edmonton, all departments have worked to full capacity and, particularly, the schoolrooms have enlarged to accommodate more children. We feel that a further increase in the educational facilities, both in Edmonton and Calgary, is necessary for 1964, and we understand that the School Boards are anticipating a staff increase.

In Calgary, their greatest single difficulty at the present time is the matter of space, and before the situation can be improved consideration must be given to taking over the basement areas now used by the Nursing Aide School's administration personnel. Until such time as this additional space is provided, it is not only difficult to expand but their over-crowded conditions are making it hard to continue at their present rate.

The coalescence of the Edmonton Cerebral Palsy Clinic with the Multiple Handicapped Children's Unit at the Glenrose Hospital is presently occurring. One large problem, with the many facets, is going to be the continued supervision of the Calgary Cerebral Palsy Clinic through the Edmonton Cerebral Palsy Clinic (now Glenrose) unless the Calgary Clinic, too, is absorbed into the Glenrose situation.

Both in Calgary and Edmonton, we are presently enjoying a satisfactory relationship with the Parents' Associations and are obtaining considerable co-operation.

Hereto follows a statistical report of the work accomplished in 1963:

	Edmonton	Calgary	Total
Number of examining clinics	52	45	97
Total number of cases examined	335	203	538
Number of cases examined by Pediatrician	95	.....	95
Number of cases examined by Assessment Team .....	.....	16	16
Number of rechecks	280	167	447
Number of new cases	55	36	91
(a) Cerebral Palsy	32	35	67
(b) Pending	2	.....	2
(c) Miscellaneous	21	1	22
Total Active Cases	315	311	626
Number of patients treated on rotating monthly, weekly or daily basis	152	111	263
Number of patients under review	163	200	363
Number of patients attending Cerebral Palsy Day Care Centres	20	20	40

Physiotherapy

Number of cases benefiting	115	85
Number of cases on physio home program	83	45
Number of cases assessed (only)	31	3
Number of cases rechecked (only)	20	.....
Number of treatments	2,631*	2,083
Total physiotherapy assessments	139	.....
Total parent instructions	417	169
Muscle tests	2	.....

*Owing to shortage of staff, treatment periods extended to three-quarter hours twice a week.

Progress

Co-ordination	34	4
Head control	17	4
Sitting balance	5	6
4-point kneeling	6	3
Kneeling balance	3	9
Standing balance	9	10
Reciprocation .....	.....	2
Crawling	5	7
Walking (a) with help (unbraced) .....	.....	4
(b) in walker .....	.....	7
(c) in parallel bars .....	.....	5
(d) with crutches .....	.....	.....
(e) with canes .....	.....	7
(f) unaided (braced) .....	.....	4
(g) unaided (unbraced) .....	.....	3
(h) with help (braced) .....	.....	4
(i) balance improved	27	8

General Improvement

Minor gait improvement .....	.....	12
Considerable gait improvement .....	.....	4
Deformities reduced	29	3
Group muscle control .....	.....	9
Minor activity increased	2	11
No progress	7	1

Bracing

(a) for control (first time)	12	10
(b) for control (continued)	34	.....
(c) removed	4	3
(d) increased	3	1
(e) special equipment	2	3
(f) corrective shoes	135	89
(g) casts .....	.....	2

Occupational Therapy

Number of cases benefiting	144	57
Number of treatment sessions	2,862	5,394
Number of parent instructions	169	78
Assessments	61	.....
Initial examinations	61	5
Emotional problems	20	7
Non-distractibility programs	11	6
Upper limb braces and appliances	4	18

Activities of daily living

(a) dressing	31	14
(b) feeding	19	7
(c) other (toilet, bathroom, kitchen, household)	11	8

Upper Limb Function

(a) range and duration of used movement	39	19
(b) Co-ordination (including hand to eye)	47	10

Special Skills

(a) handicrafts and hobbies*	35	21
(b) typing	5	5
(c) writing, pre-writing (including motor and perceptual difficulties)	30	8
(d) reading .....	.....	5

*Painting, drawing, stool seating, mosaic tiling and design, sewing, dressmaking, basketry, weaving, rug making, leatherwork, paper designing.

School

Portable Classroom—Grade I	Edmonton* (4 mos.)
Number of pupils benefiting	10
Number of school days	78
Number of parent instructions	6
Classroom I—Grades I and II	(10 mos.)
Number of pupils benefiting	8
Number of school days	196
Number of parent instructions	40
Classroom II—Grades II and III	(10 mos.)
Number of pupils benefiting	9
Number of school days	196
Number of parent instructions	12
Classroom III—Grades IV and V	(10 mos.)
Number of pupils benefiting	7
Number of school days	196
Number of parent instructions	16
Classroom IV—Grades VI - VIII	(10 mos.)
Number of pupils benefiting	8
Number of school days	196
Number of parent instructions	14

*Teaching program provided by the Edmonton Public School Board. All children receiving full day of schooling with the exception of therapy periods.

School

Classroom I—Grades I, II and Jr. III	Calgary* (10 mos.)
Number of pupils benefiting	13
Number of school days	196
Number of parent instructions	41
Classroom II—Grades I - IV	
Number of pupils benefiting	15
Number of school days	196
Number of parent instructions	15

*Teaching program provided by the Calgary Public School Board. Children receive half day of schooling each day.

Speech Therapy

Total number of cases benefiting	Edmonton*	Calgary**
Number of cases on home program	70	84
Speech and language assessments	21	10
Number of treatments	20	53
Number of parent instructions	414	94
Total parent instructions	77	41
Audiometric tests	10	8
Pre-speech activities	9	2
Respiration	12	1
Articulation	24	36
Language (comprehension)		
(a) oral	12	3
(b) non-oral	4	...
Voice training	3	...
Emotional problem (stammers, etc.)	1	1
Phonetics	4	...
General improvement		
(a) Considerable	2	6
(b) Satisfactory	28	49
(c) Little or no progress	40	29

*Full time services of Speech Therapist for 3 months; consulting services 4 months.

**Full time services of Speech Therapist for 2 months; consulting services ($\frac{1}{2}$ day per week) 10 months.

Social Service Worker

Interviews	Edmonton	Calgary (7 mos.)
Telephone calls	452	411
Home visits	948	625
Conferences	7	35
Observations	429	307
Agency Meetings	58	147
Records	31	20
	1,110	201

Dispensation of Cases

Admitted to regular school	5	2
Admitted to Special Classes in Public Schools	2	3
Served by Public Schools Homebound Teachers	1	....
Admitted to Winnifred Stewart School for Retarded Children	4	....
Admitted to Provincial Training School at Red Deer	6	4
Admitted to Unit for Physically and Mentally Handicapped Children at Baker Sanatorium .....	....	1
Referred to Edmonton Rehabilitation Centre	1	....
Attending Cerebral Palsy Associations' Centres	20	20

Foster Home Program

Total number of boarding cases	22	14
Total days—domiciliary allowance	2,700	2,134

Braces

Full control, long leg braces, with knee lock, fully adjustable, body support	2 pr.	2 pr.
Long leg braces with knee lock, hip joints and pelvic band	3 pr.	3 pr.
Long leg braces with no knee joints .....	....	2
Below knee irons and Magnusson splints, day and night	54	44
Gutter type night splints	1	1
Ponsetti bars—Fillauer	1	1
Fibreglass hand, arm, thumb, or sandwich splints	2	6
Special feeding, drinking and dressing devices	11	....
Twisters .....	....	1
Shoe corrections	133	89
Brace adjustments and repairs	33	70
Special equipment or adjustments	1	10
Arch supports	1 pr.	....
Adjustment to furniture and equipment	5	7
Adjustment to wheelchairs	6	3
Special Tiny wheelchairs	2	1
Table tops—trays	1	6
Wordboard	1

Movie Film Progress Records

Total number of cases filmed in 1963	35	17
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Staff Education

Staff attended Exceptional Children's Meetings	4 times
Director attended Academy for Cerebral Palsy at Dallas, Texas	1	....
Physiotherapist attended Bobath Workshop, Madison, Wisconsin	8 weeks	....
Physiotherapists attended Seminar on Neuromuscular Facilitations, Edmonton	1	1
O.T. Refresher Course attended by staff	4 staff	2 staff
Social Worker and O.T. attended West- ern Regional Cerebral Palsy Con- ference in Saskatoon	2	....
Supervisor and Teacher attended West- ern Regional Cerebral Palsy Con- ference in Saskatoon .....	....	2
Social Worker attended Conference in Ohio and Michigan .....	....	2
Social Worker attended Visiting Teachers' Meetings	10 times	....
O.T. attended Conference in Missouri .....	....	1
Supervisor attended Public Health Nurses Meetings	1	1
Supervisor attended Workshop and Rehabilitation Meetings .....	....	7 times
Teachers' Convention (2 days)	5 staff	....
Special Teachers' Meeting attended by Teachers and Social Worker	8	....
Staff Education Meetings held .....	....	4 times

Instructions, Conferences, Tours and Films Shown To:

Physiotherapy Students (30 hours training)	14	....
Occupational Therapy Students (50 hours training)	3	....
Physiotherapist, Occupational Therapist Internes	12	3
Nurses—Public Health, Graduates, Students or Nursing Aides	201	43
Doctors, Medical Students	71	12
Educational Officials, Special Teachers and Teachers	40	6
Social Workers, Psychologists, Psychiatrists	10	4
Visiting Board	3	3
University Students—Education and Physical Ed.	8	29
High School Students	2	12
Miscellaneous Visitors	60	30
Various films shown	32 times	28 times

Conferences Held By:

Director	3	} Edmonton and Calgary
Supervisors	3	
Social Worker	2	

Lectures By Staff:

Director	4	4
Supervisor	7	9
Speech Therapist	1	1
Occupational Therapist	1	1
Physiotherapist	6	....
Social Worker	1	3

Parent Education

Medical Director spoke at Open House.....	1	....
Medical Director spoke at Open House, Christmas Party and Parents' Meeting .....	....	3
Supervisor spoke at Parents' Meeting .....	....	1
O.T. spoke at Parents' Meeting .....	....	1
Supervisor took part in panel discussion Parents' Meeting .....	....	1
Social Worker and O.T. took part in panel discussion at Parents' Meeting	1	....
Christmas Concert	1	1
Open House	2	1

Fire Drill

Practice sessions	1	4
Inspected drill	1	....

Lunches	5,683
Total Volunteer periods	749

Transportation

Transportation provided by the Edmonton and Calgary Cerebral Palsy Associations.

Acknowledgements

Our sincere thanks are extended to all who have so generously contributed to the operation of the Cerebral Palsy Clinics in Edmonton and Calgary.

Our appreciation is extended to the Provincial Guidance Clinics and the Provincial Training School at Red Deer for their assistance and interest; also to the Edmonton and Calgary Public and Separate School Boards who have provided us with assistance and co-operation in our educational program.

The Parents' Associations in Edmonton and Calgary have continued to provide transportation without which it would be most difficult to function.

Our grateful appreciation is extended to the Nursing Supervisors and Staffs of the Clinics for their willing co-operation and valuable services throughout the year.

DIVISION OF TUBERCULOSIS CONTROL

H. H. Stephens, M.D., Director

The year 1963 has shown a further slight gain in the control of tuberculosis in Alberta. There are some communities where the incidence of this disease is still unduly high, but additional mass x-ray surveys, and extension of clinic services have been instituted in an effort to detect active cases, and observe all contacts.

The forty-fifth year of operation of this Division by the Provincial Department of Public Health has experienced a definitely stepped-up program in the use of tuberculin testing by the multiple puncture method in school surveys by Health Unit personnel, and it was added to the mass x-ray surveys throughout the Province operated jointly with the Alberta Tuberculosis Association. The number showing a reaction to the tuberculin test would indicate that about one-fifth of our population has been infected with tubercle bacilli. It is hoped to establish a system whereby all reactors to the test may be offered repeat chest x-rays at regular intervals over a period of years as long as they remain reactors. It is among this group that from three to five per cent may be expected to develop clinically active disease which will require treatment.

The usual diagnostic procedures have been continued, treatment programs have not changed appreciably but clinic services have been extended to assist in the supervision of out-patients continuing therapy at home.

The death rate for tuberculosis in Alberta for 1962 was 2.2 per 100,000, a further decrease from 1961 with a rate of 2.4 per 100,000. This does not reflect the true problem in this disease, but has lulled many into a degree of complacency and a tendency to bask in past successes, only to find that the germs of tuberculosis do not remain idle. The number of new active cases discovered together with those who re-activate their disease gives a more accurate measure of the degree of control necessary and the problem of treatment.

In 1963 there were 34 fewer active cases discovered than in 1962, with totals of 343 and 377 respectively, and giving a new active case rate of 25.8 per 100,000 in 1963 compared to 28.3 in 1962. Combined new active and inactive cases discovered in 1961, 1962 and 1963 totalled 925, 882 and 854, indicating a gradual downward trend.

Alberta was one of a few fortunate provinces in 1962 that did not contribute to about a 5% total increase in Canada of new active cases. This was the first year showing an increase during the past decade, since the use of anti-tuberculosis drugs in Canada and it is hoped that we, in this Province, shall not experience an increase in new active cases.

The tuberculosis problem in Alberta was one of grave concern for 934 residents who contributed to a period of treatment in Sanatorium averaging about 200 days. This again shows a slight decrease in numbers compared with 1961 and 1962 when 1,083 and 949 patients were treated respectively.

While progress in Alberta appears slow, we are in a most favoured position compared to many countries in the world where the victims of

tuberculosis are counted in millions. The World Health Organization which speaks in the United Nations on matters of public health has chosen "No Truce for Tuberculosis" as the 1964 theme for World Health Day.

The recent increase in Canada previously noted was also experienced in some other countries. These findings point out that tuberculosis remains a serious health problem and that our tactics in combating this disease require constant adjustment in accordance with the most effective measures at hand to discover, treat if necessary, and observe all infected persons.

On August 31, 1963, Dr. L. M. Mullen, Medical Superintendent, Baker Memorial Sanatorium, Calgary, retired from the Tuberculosis Division, having completed over thirty years of devoted service. He began as Staff Medical Officer in 1929, leaving in early 1935 to do general practice until late 1937, when he returned to become Assistant Medical Superintendent. In 1950, upon the retirement of the late Dr. A. H. Baker, he assumed the position of Medical Superintendent. Dr. Mullen contributed much to the Tuberculosis Control Program in this Province, and patients throughout its length and breadth have had the benefit of his knowledge and skills. A farewell party was held in the Auditorium at Baker Memorial Sanatorium when an engraved watch and a purse was presented to him as a token of appreciation. Many friends were present to extend best wishes for his future. A presentation was also made to Mrs. Mullen in recognition of the many and varied interests and kind acts shown by her to both patients and staff during Dr. Mullen's period of service at the Sanatorium.

Dr. J. Ryder, Assistant Medical Superintendent, assumed the position of Medical Superintendent, and Dr. R. Boyd, Staff Surgeon, filled the position of Assistant Medical Superintendent.

Mr. A. Reid retired in September, 1963. He was on the staff of D.P.W. as Maintenance Foreman at the Aberhart Memorial Sanatorium from February, 1952, when the institution opened. During the period of occupancy of a new hospital many adjustments and some alterations become necessary. Mr. Reid gave excellent service and his co-operation in serving the needs of patient care, maintenance of equipment, buildings and care of the grounds, was a credit to his Department. He was replaced by his Assistant, Mr. A. Cheshire.

CONSTRUCTION

One building at the Baker Memorial Sanatorium had previously had the lower floor renovated and equipped for the care of 45 mentally retarded children under the Division of Mental Health. During 1963 the upper floor was also renovated for a total bed capacity of 90 in the building and more patients were admitted in the fall of 1963.

No new construction is considered necessary for treatment of tuberculosis. The bed occupancy at the Baker Memorial Sanatorium for tuberculosis has remained almost constant during 1963 which is about 40%. It is planned to vacate two other sections by moving all tuberculosis patients into the buildings facing the Bow River. This could make about eighty beds available for other purposes.

DIAGNOSTIC AND FOLLOW-UP SERVICES

During 1963 there were 23,266 persons reviewed at the two sanatoria clinics and at 16 other stationary clinics in the Province. These

examinations assisted in diagnosing 583 new cases of tuberculosis who had been referred as contacts, follow-up of mass surveys or by physicians. 136 of these new cases are considered to be active and 447 inactive.

Two mobile x-ray units for mass surveys operated steadily throughout the year, as well as a small portable unit on occasion for use in some Nursing Homes or other areas where patients are unable to attend the large unit. There were about 125,000 Albertans screened by this method, and subsequent follow-up at one of the clinics noted above, led to the discovery of 198 new cases, 26 of these being active and needing Sanatorium care. The mobile x-ray units were purchased by the Alberta Tuberculosis Association and are operated jointly by them and the Division of Tuberculosis Control, paying half the cost of operation. They also provide a Survey Organizer for each of the units.

In April, 1963 a graduate nurse was placed with one of the units to carry out a tuberculin testing program in conjunction with the chest x-ray surveys. During the balance of the year about 26,000 tuberculin tests were done on those attending above school age, and these showed a reactor rate of approximately 27 per cent. The test was well accepted and created considerable new interest among the general population concerning tuberculosis. It is hoped that subsequent follow-up surveys may be directed more specifically to that segment of our population who are reactors and considered to have been infected by the tubercle bacillus. It is among this group that from three to five per cent may develop clinically active tuberculosis and require treatment. It is expected that this program will be further developed and expanded during the coming year.

The Hospital Admission X-Ray Program where the Alberta Tuberculosis Association had previously installed miniature photo-fluoroscopic units have unfortunately not been actively used in all the 38 hospitals where these are situated. In many smaller hospitals they had also sponsored an Admission Tuberculin Testing Program, with the reactors being x-rayed, and this has received varied response.

The miniature x-ray units in the City Halls of Calgary, Edmonton and Lethbridge, have, on the other hand, been much more active, and it is proposed to develop this program in some other cities.

The Federal Indian and Northern Health Services in doing x-ray surveys of Reserves in Alberta have x-rayed non-Indians who were in these areas as well, and forwarded either reports or chest films to the Division for interpretation and attention, resulting in the discovery of 74 new cases, with 59 being considered active. Of these, 11 and 2 respectively were Non-Treaty.

The staffs of health units of the Province and boards of health of our cities, through tuberculin testing school personnel and children, food handlers and other selected groups, have carried out about 80,000 tests, resulting in about 5,000 x-rays being done on reactors to discover 29 new cases, 11 being considered active.

The Provincial Laboratories, the Dept. of Veterans' Affairs, the Provincial Mental Hospitals, the Cancer Clinics and miniature chest x-rays in all the Correctional Institutions have all contributed information or reported new cases to the Division for attention, all of which has assisted very materially in the control program of the Province.

Follow-up of ex-sanatorium patients, contacts of known cases, inactive cases and suspect cases under observation are often dependent

for call-up upon the Central Tuberculosis Registry for the province in the Division Office. Family physicians, city health staffs, health unit personnel and clinics conducted at the two sanatoria, also in health unit offices and hospitals by sanatoria physicians are all active in this program. The follow-up of contacts entails a tremendous amount of work, the majority of which is done by Public Health, Kinsmen and City Nurses, and they in turn supply essential information to our Central Registry.

B.C.G. vaccination has been offered only to selected groups in the Province, such as hospital staffs, medical and nursing school students, non-reactors in families where a known far advanced or moderately advanced pulmonary case is not definitely controlled, or to persons wishing to travel to areas where the incidence of tuberculosis is known to be comparatively higher. The Indian & Northern Health Services have been using B.C.G. more extensively among non-reactors in school children on Reserves in the Province, recording 3,102 vaccinations, while the total for the province was 4,424.

TREATMENT SERVICES

Treatment of tuberculosis in 1963 showed little change from 1962. There were no new drugs to displace the ones previously in use, nor a vaccine to offer new hope in the control of this disease. The period of drug therapy still requires 18 - 24 months, with about one-third of the time spent in sanatoria, and two-thirds on an out-patient basis. Out-patient services have been increased slightly as the time spent by patients in Sanatoria has decreased. In 1963 there were 934 patients treated in the two sanatoria, compared with 949 in 1962, a decrease of 15 patients. During the past few years there has been a gradual slow decline in the number of patients who require major surgical procedures to control their infection.

EDUCATION AND REHABILITATION

All children of school age have the benefit of qualified teachers while under treatment in either sanatorium. The Alberta Tuberculosis Association provides an additional teacher at each sanatorium, as well as a Rehabilitation Officer. These supervise Correspondence and Commercial Courses or Basic English to some patients as required. The Occupational Therapy Department augments both treatment and educational programs.

NURSING AND MEDICAL PROGRAM

The fourth year medical students of the University of Alberta attend a two-hour teaching session at the Aberhart Memorial Sanatorium each week during the academic year. The class is divided so that each student attends eight sessions concerning tuberculosis and related respiratory disease.

Many of the training schools for nurses have a four-week affiliation program at the sanatoria in Edmonton and Calgary. Some schools have discontinued the course. In addition to the above, the Aberhart Memorial Sanatorium has operated a one-week course co-ordinated with the first week of the four-week course and finds the training schools are sending students who are non-reactors to the tuberculin test, or with larger classes in the schools, those who cannot take advantage of the four-week course. The training schools are passing through a period of re-assessment of their programs and it is hoped that some time can be allotted to the teaching of tuberculosis.

ACKNOWLEDGEMENTS

The work accomplished during the year in the Tuberculosis Control Program has received active support and co-operation from the Division staff and Central Registry, as well as those of both sanatoria, having completed a busy, yet rewarding year in patient care, including diagnosis, treatment and follow-up procedures. I wish to express my appreciation to those who have contributed to this operation.

Many voluntary workers and organizations have given excellent service, contributing to patient welfare in hospital, and assisting other activities outside, especially in mass x-ray surveys throughout the province.

The Alberta Tuberculosis Association has again under Mr. C. H. Crooks until October, 1963, done an excellent job in assisting in many phases of work, from sharing in Mass X-ray Surveys—Kinsmen and Public Health Nursing Service, Rehabilitation and Educational Programs for patients and staff—as well as promoting Hospital Admission X-ray and Tuberculin Testing Programs. In October, Mr. J. McKenzie filled the General Secretary's position, and we look forward to his direction and the continued assistance by his staff in the Tuberculosis Control and Respiratory Disease Programs. The many contributions in this work are much appreciated and are gratefully acknowledged.

The Department of Indian and Northern Health Services continues an active case finding program among the Indians of the Province. Non-Indians living adjacent to the Reserves have had the benefit of their surveys and cases needing attention are referred to this Division. In some isolated areas the Division is able to reciprocate in a much smaller number of cases for them. This service has assisted us very much and I wish to express our appreciation to those concerned for it.

The patients at both sanatoria have been well cared for by visiting clergy regarding their spiritual needs and both patients and staff appreciate the co-operation of this group.

The many individuals and organizations who have contributed by visiting, donations, entertainment, for our patients' comfort are gratefully acknowledged.

A Statistical Summary follows, outlining the work carried out in the Sanatoria and the Division.

DIAGNOSTIC CLINIC

DIAGNOSTIC CLINIC						New Cases of Tub.		No. of Examin- ations
1. STATIONARY CLINICS	No. Sessions	Pul.		Non-pul.				
		Act.	Inact.	Act.	Inact.			
Baker Memorial Sanatorium	98	14	82	1	4	3,449		
Aberhart Memorial Sanatorium	149	53	91	3	4	7,167		
Athabasca	2	....	....	....	....	41
Bonnyville	2	....	....	....	....	21
Brooks	11	....	....	....	....	101
Camrose	2	....	....	....	....	20
Drumheller	12	....	2	....	1	138
Grande Prairie	3	....	3	....	....	47
Hanna	2	....	....	....	....	11
High Prairie	3	....	....	....	....	60
Lac La Biche	2	....	....	....	....	42
Lethbridge	12	4	16	....	....	732
Medicine Hat	12	1	4	....	....	459
Peace River	3	....	1	....	....	46
Red Deer	12	....	3	....	....	291
St. Paul	2	....	1	....	....	29
Taber	12	....	1	....	....	174
Vegreville	2	....	1	....	....	28
TOTAL	341	72	205	4	9	12,856		
*Miscellaneous Clinics .....	....	59	231	1	2	10,410	
TOTAL ALL CLINICS	341	131	436	5	11	23,266		

*Films sent in from various points and paid for by the Tuberculosis Division.

2. TUBERCULIN TESTING AND X-RAY PROGRAM

(Conducted by Public Health Personnel, Teachers, Business Firms, Hospitals, etc.)

	No. Tbn. Tested	No. X-rayed
Miscellaneous (by Public Health Personnel)	4,642	348
School Board, Edmonton	164	421
Nursing Aide Trainees	177	790 (564 x-rayed by City Hall Unit)
Food Handlers	28	212
Red Cross Blood Transfusion Service	7	7
University Students .....	.....	180
Provincial Laboratory Staff	16	31
Industrial	16	20
School Survey (see Table 2b)	81,013	2,939 (506 x-rayed by City Hall Unit)
TOTAL	86,063	4,948 (1,070 x-rayed by City Hall Unit)

Actual number given service through this program is 86,246, i.e. the number tuberculin tested plus the number x-rayed but not tested and minus the number known to be x-rayed by Mass Survey Programs.

2a. NUMBER OF INJECTIONS, OUT-PATIENTS

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total
Streptomycin	167	1,621	1,788

2b. SCHOOL TUBERCULIN TESTING SURVEY

	No. Tested			No. Reactors			Total Reactors	Number X-rayed	New Cases Tub.	
	School	Staff	Contacts	School	Staff	Contacts			Active	Inactive
Alberta East Central H.U.	3,004	75	.....	54	5	.....	59	29	2	1
Athabasca H.U.	2,340	83	81	767	14	40	821	459	1	1
Banff National Park H.U.	59	.....	.....	1	.....	.....	1	.....	.....	.....
Barons-Eureka H.U.	679	222	100	24	21	40	85	83	.....	1
Big Country H.U.	978	92	34	7	17	7	31	30	.....	1
City of Calgary	11,763	.....	869	326	.....	155	481	583	1	.....
Chinook H.U.	1,134	47	3	35	8	1	44	44	.....	1
City of Edmonton	16,086	1,534	455	453	347	97	897	559	1	1
Edson H.U.	2,273	118	159	13	3	28	44	39	3	.....
Foothills H.U.	611	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grande Prairie H.U.	711	8	44	12	.....	4	16	16	1	.....
Jasper National Park H.U.	112	6	16	3	3	6	12	12	.....	.....
Jasper Place H.U.	2,256	122	144	40	15	28	83	74	1	.....
City of Lethbridge	1,811	239	214	54	18	24	96	96	.....	.....
Leduc-Strathcona H.U.	3,031	422	.....	19	46	.....	65	65	.....	.....
Medicine Hat H.U.	1,909	59	27	46	10	.....	56	210	.....	.....
Minburn-Vermilion H.U.	798	110	.....	10	11	.....	21	17	.....	.....
Mount View H.U.	2,794	102	114	64	22	20	106	106	.....	.....
North Eastern Alberta H.U.	4,603	391	140	713	81	46	840	?	.....	2
Peace River H.U.	1,199	125	78	25	19	10	54	52	.....	.....
Red Deer H.U.	1,780	26	12	8	.....	4	12	12	.....	1
Sturgeon H.U.	4,719	275	193	82	46	48	176	318	.....	.....
Stony Plain-Lac Ste. Anne H.U.	2,811	82	93	72	16	14	102	43	.....	.....
Vegreville H.U.	2,884	23	51	58	3	16	77	47	.....	.....
Wetoka H.U.	3,193	243	95	33	12	11	56	45	.....	1
Rocky Lane Municipal Nurse	125	.....	.....	.....	.....	.....	.....	.....	.....	.....
Swan Hills Municipal Nurse	18	2	4	.....	2	.....	2	.....	.....	.....
TOTAL	73,681	4,406	2,926	2,919	719	599	4,237	2,939	10	11

3. MASS X-RAY SURVEYS

	Number X-rayed
Surveys at 78 points	54,196
City Hall, Calgary—Industrial	2,838
Nursing Aide Trainees	564
School Survey	506
General Public	6,682
City Hall, Edmonton—General Public	7,023
City Hall, Lethbridge—General Public	1,054
Industrial Survey, Calgary	27,775
Industrial Survey, Edmonton	16,277
Correctional Institution—Calgary	1,758
Fort Saskatchewan	2,068
Lethbridge	661
Unemployment Insurance Commission, Edmonton	2,474
X-ray Unit No. 6, South	98
X-ray Unit No. 6, North	324
TOTAL	124,298

SUMMARY MASS X-RAY SURVEYS

Number x-rayed	124,298
Probable Tuberculosis Active	34 (14 previously discovered)
Probable Tuberculosis Inactive	889 (706 previously discovered)
Further Examination Requested	1,151
Non-Tuberculous Chest Conditions	1,455 (10 of these probable Carcinoma)
Undiagnosed (includes 260 spoiled films)	262
Pleurisy Active	6 (4 previously discovered)
Pleurisy Inactive	444 (135 previously discovered)
No Disease	120,057

4. SUMMARY CLINICS AND SURVEYS

Stationary Clinics	Total
Other Clinics	12,856
Surveys (Miscellaneous)	10,410
Mass Surveys	5,233
School Surveys	124,298
Department of National Health and Welfare (Indian and Northern Health Services)	81,013
*Hospital Admission Program	18,513
TOTAL	14,562
	266,885

*The Hospital Admission X-ray Program, sponsored by the Alberta Tuberculosis Association in various hospitals in the Province, reports chest films taken as follows:

14 x 17 films	40,835
Miniature films	29,812
TOTAL	70,647

Of the above only those referred to the Sanatorium for interpretation are included in Table 4.

5. SOURCES OF DISCOVERY OF NEW CASES OF TUBERCULOSIS

	1962	%	1963	%
Clinics	578	65.5	583	68.3
Referred for admission by family doctor	143	16.2	142	16.6
No. 6 X-ray Unit	6	.7	5	.6
Referred by Department of Veterans Affairs or National Defence	5	.6	11	1.3
Provincial and Hospital Laboratories	6	.7	3	.4
Hospital Admission Program	23	2.6	19	2.2
Department National Health and Welfare (Indian Health Services)	86	9.8	63	7.4
Department National Health and Welfare (Immigrants) .....	...	...	1	.1
Mental Hospital	32	3.6	17	1.9
Miscellaneous Sources	3	.3	10	1.2
TOTAL	882		854	

The following table sets forth the sources of discovery giving credit to programs actually referring the cases to the Tuberculosis Clinics or for admission to Sanatorium beds for the establishment of diagnoses, e.g. the various programs originally responsible for the 583 cases being referred to Tuberculosis Clinics are credited with the discovery of the cases in the following break-down.

	1962	%	1963	%
Family Doctor	243(154)	27.6	212(149)	24.8
Mass Surveys	164(28)	18.6	198(26)	23.2
No. 6 X-ray Unit	6(1)	.7	5(3)	.6
Contacts	89(64)	10.1	73(51)	8.5
Department National Health and Welfare (Indian Health Services)	93(73)	10.5	74(59)	8.7
Department National Health and Welfare (Immigrants)	44(2)	5.0	52(1)	6.1
Previously diagnosed other Provinces or Countries	67(2)	7.6	80(4)	9.4
Hospital Admission Program	40(5)	4.5	42(4)	4.9
School Surveys	39(11)	4.4	21(10)	2.5
City Hall Units	19(8)	2.2	24(5)	2.8
Department of Veterans Affairs and National Defence	7(2)	.8	9(2)	1.0
Food Handlers	5(2)	.6	8(1)	.9
Correctional Institutions	15(7)	1.7	16(7)	1.9
Provincial and Hospital Laboratories	6(6)	.7	6(6)	.7
Miscellaneous Surveys	4(...)	.5	1(1)	.1
Mental Hospital	32(11)	3.6	18(8)	2.2
Cancer Clinic .....	...	...	2(2)	.2
Pre-employment X-ray .....	...	...	1(1)	.1
Miscellaneous Sources	9(1)	1.0	12(3)	1.4
TOTAL	882(377)		854(343)	

Figures in brackets indicate number of active cases.

6. CLASSIFICATION OF NEW CASES OF ACTIVE AND INACTIVE TUBERCULOSIS

	Active	Inactive	Total
Minimal	64	435	499
Moderately Advanced	81	56	137
Far Advanced	32	3	35
Primary	82	...	82
Tuberculosis Pleurisy with Effusion or evidence of previous Pleurisy	13	3	16
Non-pulmonary Tuberculosis	67	14	81
Miliary	4	...	4
TOTAL	343	511	854
Number of cases reactivated			80
Number of non-residents diagnosed tuberculosis (includes 36 immigrants) (4 of the 44 active disease)			44
Number Treaty Indians diagnosed tuberculosis			63
Number of known contacts of newly discovered active and of reactivated cases			2,354
Number known to be checked during 1963			1,784 75.8%

OLD TUBERCULIN DISTRIBUTED DURING 1963

	BMS	AMS	Total
Dilution No. 2	52	166	218
Dilution No. 3	372	911	1,283
Dilution No. 4	44	...	44
Purified Protein Derivative .....	...	1,092	1,092
	468	2,169	2,637

In addition to the above, Patch Tests were sent on request to Health Units and Family Doctors. The Tuberculosis Division recommends, however, that the Mantoux or Heaf Test be used in preference to the Patch Test.

B.C.G. VACCINATIONS 1963

1. Nurses (a) Graduates	14
(b) Students	744
(c) Other Nursing Personnel	436
2. Other Hospital Personnel	61
3. Medical Students	56
4. Indians and Eskimos—newborn (Indian and Northern Health Services) ..	3,102
5. All Other Persons—	
(a) Newborn contacts .....	...
(b) Adults and children, contacts	11
(c) Newborn, not contacts .....	...
(d) Adults and children, not contacts .....	...
TOTAL	4,424

INSTITUTIONAL REPORT

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium
Number of patients under treatment January 1, 1963	93	199
Number admitted during 1963	250	392
Number transferred in during 1963 .....	...	1
Number treated during 1963	343	592
Number discharged or died during 1963	250	392
Number transferred out during 1963	1	...
Number discharged, died or transferred out during 1963	251	392
Number under treatment December 31, 1963	92	200
Number of patients under treatment January 1, 1963		292
Number of admissions during 1963		642
Number of patients treated in Alberta during 1963		934

DIAGNOSIS OF PATIENT ADMISSIONS

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium
Non-tuberculous	4	23
For diagnosis	67	37
Pleural effusion	5	12
Tuberculosis inactive	30	31
Primary tuberculosis	13	51

NON-PULMONARY TUBERCULOSIS

Abscess (miscellaneous) .....	...	1
Adenitis	2	17
Bone	8	7
Caecum .....	...	1
Erythema Nodosum .....	...	1
Eye .....	...	1
Genito-urinary	12	13
Intestinal	2	...
Ischio-rectal abscess .....	...	1
Lupus Vulgaris .....	...	3
Meningitis	1	5
Pelvic	6	6
Pericarditis	1	...

PULMONARY TUBERCULOSIS ACTIVE

Minimal	15	52
Moderately advanced	44	90
Far advanced	38	38
Miliary	2	1
Silico-tuberculosis .....	...	1
TOTAL	250	392
Number with positive sputum on admission	41	101
Number with negative sputum on admission	209	291
Number of readmissions during 1963	70	117
Number both admitted and readmitted during 1963	6	25
Number left against advice during 1963	4	72
Number of patient days	35,918	76,072
Number of patient days in other provinces under reciprocal agreement	2,114	
Total number of patient days including those in other provinces under reciprocal agreement	114,104	
Number of patients in other provinces (reciprocal agreement) January 1, 1963	5	
Number of admissions in other provinces under reciprocal agreement	4	
Number of institutional patient days provided for non-residents in Alberta under reciprocal agreement	2,153	
Number of patients in Alberta Sanatoria, non-residents under reciprocal agreement, January 1, 1963	3	
Number of admissions, non-residents, under reciprocal agreement	13	
Number of active tuberculosis cases admitted for treatment who have history of tuberculosis but who, as far as we know, have never been admitted for treatment anywhere	29	
Number "chronic alcoholics" admitted	16	
Number found to have carcinoma or suspected carcinoma either on admission or by x-ray (Clinic, Hospital Admission, Mass Survey or other program)	54	

DEPARTMENT OF PUBLIC HEALTH

OPERATING ROOM REPORT

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total
Aspiration of chest	42	15	57
Bronchoscopy	29	27	56
Bronchogram	33	19	52
Cavernostomy	2	1	3
Decortication	2	...	2
Lobectomy	10	12	22
Plombage	1	1	2
Pneumonectomy	3	4	7
Segmental resection	2	5	7
Thoracotomy .....	...	2	2
Thoracotomy and removal tumor	1	...	1
Thoracoplasty	3	3	6
Tracheotomy	1	...	1
Unroofing empyema	1	...	1
Cystoscopy	16	16	32
Nephrectomy	2	3	5
Exploration ureterostomy .....	...	1	1
Cutaneous ureterostomy .....	...	1	1
Orthopaedic operations	6	9	15
Casts	5	16	21
Cholecystojejunostomy .....	...	1	1
Cholecystectomy	1	...	1
Gastrostomy .....	...	1	1
Glorectomy .....	...	2	2
Hysterectomy	2	3	5
Implantation D.O.C.A.	4	11	15
Miscellaneous procedures	356	37	393
TOTAL	519	190	709

SUMMARY PNEUMOTHORAX CASES

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total
Under treatment January 1, 1963	1	...	1
Under treatment December 31, 1963	1	...	1
Refills:			
Resident .....	...	...	...
Out-patient	10	...	10

Note: There were no cases discontinued or transferred.

There was no pneumothorax given at the Aberhart Memorial Sanatorium nor at any outside point.

SUMMARY PNEUMOPERITONEUM CASES

Under treatment January 1, 1963 .....	...	6	6
Number of new cases during 1963 .....	...	5	5
Number discontinued during 1963 .....	...	7	7
Number under treatment December 31, 1963 .....	...	4	4
Refills:			
Resident .....	...	107	107
Out-patient .....	...	110	110
TOTAL .....	...	217	217

Note: There was no pneumoperitoneum given at any outside point

NUMBER DISCHARGED ON DRUGS DURING 1963

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total
Isoniazid	3	1	4
Isoniazid and Cycloserine	1	...	1
Isoniazid and Isoxyl	3	...	3
Isoniazid and Para-amino Salicylic Acid	90	149	239
Isoniazid and Streptomycin	4	22	26
Isoniazid, Para-amino Salicylic Acid and Streptomycin	10	11	21
Isoniazid and Ethionamide	1	2	3
Streptomycin .....	...	1	1
Streptomycin and Para-amino Salicylic Acid .....	...	4	4
Streptomycin, Pyrazinamide and Para-amino Salicylic Acid .....	...	1	1
Streptomycin and Parazinamide .....	...	3	3
Streptomycin and Isoxyl	1	...	1
Pyrazinamide and Seromycin .....	...	1	1
Ethionamide and Seromycin	1	...	1
TOTAL	114	195	309

LABORATORY REPORT

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total
SPUTUM EXAMINATIONS			
Positive	205	413	618
Negative	2,535	2,156	4,691
TOTAL	2,740	2,569	5,309
URINE EXAMINATIONS			
	4,959	5,422	10,381
BLOOD EXAMINATIONS			
Blood Counts	5,036	5,135	10,171
Sedimentation Rates	2,785	2,961	5,746
Blood Sugars	484	594	1,078
TOTAL	8,305	8,690	16,995
MISCELLANEOUS			
Pleural fluid	34	17	51
Spinal fluid	5	108	113
Gastric Analysis	1	5	6
Culture	5,658	1,864	7,522
Guinea Pig Inoculation	473	915	1,388
Other	3,436	1,585	5,021
TOTAL	9,607	4,494	14,101
WASSERMAN REPORT			
Positive	3	15	18
Negative	233	304	537
TOTAL	236	319	555
Basal Metabolism Rate .....	...	8	8
Cardiograph .....	...	115	115
DENTAL REPORT			
Number of patients (individuals)	173	580	753
Number of treatments	51	488	539
Number of prophylactic treatments	37	13	50
Number of fillings	50	215	265
Number of extractions	142	208	350
Number of new dentures and repairs	10	45	55
TOTAL	463	1,549	2,012

X-RAY DEPARTMENT REPORT

	Baker Memorial Sanatorium		Aberhart Memorial Sanatorium		Total		Grand Total
	In-Pts.	Out-Pts.	In-Pts.	Out-Pts.	In-Pts.	Out-Pts.	
RADIOGRAPHS MADE							
Chest—Full Size	1,107	1,288	1,926	1,854	3,033	3,142	6,175
Miniature .....	...	3,024	...	7,242	...	10,266	10,266
Ribs .....	...	...	3	1	3	1	4
Pelvis	21	14	2	9	23	23	46
Extremities	42	85	71	38	113	123	236
Spines—Cervical	7	2	3	1	10	3	13
Dorsal	33	16	28	11	61	27	88
Lumbar	33	44	35	16	68	60	128
Skull	3	...	7	...	10	...	10
Sinuses .....	...	...	1	1	1	1	2
F.P. Abdomen	8	...	23	...	31	...	31
G.B. Series	1	...	5	...	6	...	6
G.I. Series	4	...	7	...	11	...	11
Barium Enema .....	...	...	3	...	3	...	3
Intravenous Pyelogram ..	28	2	54	23	82	25	107
Retrograde Pyelogram ..	12	...	10	1	22	1	23
Sinogram	2	1	14	2	16	3	19
Bronchogram	37	...	38	4	75	4	79
Ordographs	47	8	109	20	156	28	184
Dental	31	2	79	...	110	2	112
Shoulder	7	8	...	...	7	8	15
Sacro-iliac	2	6	1	1	3	7	10
TOTAL	1,425	4,500	2,419	9,224	3,844	13,724	17,568
Fluoroscopic							
Examinations	14	8	94	98	108	106	214
Films sent in for Interpretation .....	...	14,710	...	9,669	...	...	24,379
Basal Metabolism Rate .....	...	3	...	...	...	...	3
Cardiograph .....	...	39	...	...	...	...	39

CLASSIFICATION OF DISCHARGED PATIENTS

	On ad- mission	Residence		On discharge				
		31 days or less	Over 31 days	In.	Q.	Al.	Au.	D.
1. For diagnosis	116	74	42	....	....	....	....	5
2. Primary Tuberculosis	66	3	63	14	....	48	....	2
3. Reinfection type pulmonary tuberculosis clinical:								
Minimal	55	11	44	22	....	30	2	1
Moderately advanced ..	82	19	63	48	....	25	2	4
Far advanced	32	7	25	25	2	2	....	3
4. Reinfection type pulmonary tuberculosis positive:								
Minimal	27	....	27	3	....	23	....	1
Moderately advanced ..	73	2	71	8	....	59	2	4
Far advanced	80	3	77	14	....	44	....	22
Miliary	2	....	2	1	....	1	....	....
5. Tuberculosis pleurisy	12	5	7	3	....	8	1	....
6. Non-pulmonary Tuberculosis:								
Adenitis	26	8	18	4	....	19	2	....
Addison's Disease	1	1	....	1	....	....	....	....
Abscess, B.C.G.	1	1	....	....	....	1	....	....
Abscess, Ischio-rectal ..	1	....	1	....	....	1	....	....
Bone	15	1	14	6	....	6	....	2
Caecum	1	1	....	1	....	....	....	....
Erythema Nodosum	2	....	2	....	....	2	....	....
Eye	2	....	2	1	....	1	....	....
Genito-urinary	29	9	20	9	....	19	1	....
Lupus Vulgaris	1	....	1	1	....	....	....	....
Meningitis	6	....	6	2	....	3	....	1
Pelvic	11	....	11	....	....	11	....	....
Pericarditis	1	....	1	....	....	1	....	....
Total active tuberculosis....	526	71	455	....	....	....	....	....
Total treated .....	....	....	497	117	2	291	4	36
Total untreated .....	....	145	....	46	....	13	6	9
Grand Total	642	145	497	163	2	304	10	45

EXPLANATION OF ABBREVIATIONS AND TERMS USED

The standard classification is that of the National Tuberculosis Association. Minimal, Moderately Advanced and Far Advanced refer to anatomical extent of disease.

In.	..... Inactive
Q.	..... Quiescent
Al.	..... Active Improved
Au.	..... Active Unimproved
D.	..... Died

N.B. Only those in residence over 31 days are classed as "treated".

7 cases diagnosed tuberculosis on admission were found to have non-tuberculous disease or no disease thus accounting for the apparent discrepancy in the above table.

CLASSIFICATION ON ADMISSION OF 642 DISCHARGED PATIENTS

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total
For diagnosis	72	44	116
Primary tuberculosis	17	49	66
Pulmonary tuberculosis	121	230	351
Tuberculous pleurisy	2	10	12
Non-pulmonary tuberculosis	38	59	97
TOTAL	250	392	642

CLASSIFICATION ON DISCHARGE OF TREATED CASES OF ACTIVE TUBERCULOSIS AND TUBERCULOUS PLEURISY

	On admission Number	On discharge		
		Improved	Unimproved	Died
Minimal	71	69	....	2
Moderately advanced	132	123	2	7
Far advanced	102	79	....	23
Primary	63	61	....	2
Miliary	2	2	....	....
Non-pulmonary tuberculosis	76	73	1	2
Tuberculous pleurisy	7	7	....	....
TOTAL	453	414	3	36

2 moderately advanced active on admission found to be non-tuberculous accounting for apparent discrepancy between above table and table "Classification of Discharged Patients".

RESIDENCE OF DISCHARGED PATIENTS

SUMMARY	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total
Cities	138	144	282
Health Units	93	191	284
Enlarged Municipal Districts { not included }	11	....	11
Local Improvement Districts { in } .....	....	28	28
Counties { Health Units }	1	....	1
Non-Resident	7	29	36
TOTAL	250	392	642

SEX OF DISCHARGED PATIENTS

Male	157	220	377
Female	93	172	265
TOTAL	250	392	642

AGE ON ADMISSION OF DISCHARGED PATIENTS

Under 1 year .....	....	4	4
From 1 - 9 years	24	48	72
From 10 - 14 years	9	19	28
From 15 - 19 years	3	29	32
From 20 - 29 years	25	65	90
From 30 - 39 years	46	63	109
From 40 - 49 years	37	39	76
From 50 - 59 years	35	48	83
From 60 - 69 years	29	43	72
From 70 - 79 years	35	21	56
80 years and over	7	13	20
TOTAL	250	392	642

SOCIAL STATUS OF DISCHARGED PATIENTS

Single	82	170	252
Married	129	170	299
Divorced	8	7	15
Separated	7	14	21
Widowed	24	31	55
TOTAL	250	392	642

RESIDENCE IN ALBERTA

Born in Alberta	96	202	298
1 year or less	10	5	15
1 - 5 years	18	26	44
6 - 9 years	18	20	38
10 - 14 years	11	26	37
15 - 19 years	8	7	15
20 - 29 years	10	17	27
30 or more years	79	65	144
Non-Resident .....	....	24	24
TOTAL	250	392	642

RACIAL ORIGIN

Metis	13	128	141
Native Indian	33	....	33
Japanese	3	....	3
Negro	2	1	3
Chinese	6	11	17
TOTAL	57	140	197

DEPARTMENT OF PUBLIC HEALTH

LENGTH OF STAY IN SANATORIUM OF DISCHARGED PATIENTS

	Baker Memorial Sanatorium	Aberhart Memorial Sanatorium	Total T.B. Division	Charles Carnsall	Total
DEATHS					
Number in Sanatorium under 31 days..	6	3	9	1	10
Number of patient days	62	29	91	20	111
Average number patient days	10.3	9.7	10.1	20	11.1
Number in Sanatorium 31 or more days	16	20	36	....	36
Number of patient days	12,613	8,621	21,234	....	21,234
Average number patient days	788.3	436.1	589.6	....	589.6
DISCHARGES					
Number in Sanatorium under 31 days..	88	48	136	41	177
Number of patient days	1,206	687	1,893	580	2,473
Average number patient days	13.7	14.3	13.9	14.1	14.0
Number in Sanatorium 31 or more days	140	321	461	107	568
Number of patient days	35,430	70,830	106,260	27,769	134,029
Average number patient days	253.1	220.7	230.5	259.5	237.0
Total number deaths and discharges....	250	392	642	149	791
Total number patient days	49,311	80,167	129,478	28,369	157,847
Average number patient days	197.3	204.5	201.7	190.4	199.5

DIVISION OF MENTAL HEALTH

**R. R. MacLean, M.D., Cert. in Neurol. and Psych.,
F.A.P.A., Cert. M.H.A. (A.P.A.), Director**

ADMINISTRATION

The Division of Mental Health of the Province concerns itself with matters of mental health, mental illness, and mental retardation. In the field of preventive and community services are the Provincial Guidance Clinics. Treatment and care of the mentally ill are provided by two active treatment reception hospitals, and three auxiliary mental hospitals, which provide long term and geriatric care. There is also a small unit for emotionally disturbed children. For the care and training of mentally retarded children there is a Provincial Training School, and for the care of the adult retarded chiefly, there is Deerhome, a separate institution. Separate annual reports of the above mentioned services are included herewith.

The services provided have been very satisfactory and have been expanded during the past year in an attempt to meet the growing demand for all such.

Bursary assistance was granted to many staff members in the disciplines of psychiatry, psychology and social work, in an effort to provide more trained and experienced staff in all the services. The shortage of such staff continues to be a major problem in endeavouring to meet the demands for increased services.

PREVENTIVE SERVICES

Provincial Guidance Clinics

The total work-load of the Clinics showed a substantial increase. The cases examined were of a severe nature generally. The majority fell within the category of the emotionally disturbed and otherwise maladjusted children. About 20 per cent of all new cases seen were in the intellectually inadequate group.

Of special note was the opening in August of the Grande Prairie Branch of the Provincial Guidance Clinic, Edmonton, to serve the Peace River area.

There was a higher percentage of adults seen in the Lethbridge and Medicine Hat areas where no psychiatrists are in private practice, and the Guidance Clinic Psychiatrist attempts to fill this need.

The Clinic personnel engaged in a great deal of work in the field of public education in Mental Health. Staff members took part in panels, individual talks and radio and television appearances.

The Clinics assisted in the follow-up work with discharged patients from the mental hospitals. Psychiatrists from the Provincial Mental Hospital, Ponoka, visited the Provincial Guidance Clinic, Calgary, for the purpose of interviewing former patients and reviewing their progress and prescribing or adjusting medications. This service is worthy of special mention.

Separate reports from the various clinics follow:

PROVINCIAL GUIDANCE CLINICS

PROVINCIAL GUIDANCE CLINIC, EDMONTON

A. R. Schrag, M.D., Spec. Psychiatry, Clinic Director

During 1963 four staff members returned from educational leave, having successfully completed their training in Social Work. Two other staff members were given educational leave to attend Schools of Social Work.

The Psychiatric Staff was increased to three full-time Certified Specialists and one resident in Psychiatry.

A sub-office of the Provincial Guidance Clinic, Edmonton, was opened in Grande Prairie in August with a full-time Psychologist, in an effort to increase service to the Grande Prairie and Peace River area. Clinics were held periodically, at which times a Psychiatrist and a Social Worker were present.

After a lapse of a number of years, a Clinic service to Holden was instituted on a limited basis.

A new Clinic center was established in Fort McMurray and visited twice during the year.

Total cases seen in 1963 were 2,371.

New cases examined numbered 1,719, which was an increase of 272 cases over 1962. Re-examination of cases increased by 26 for a total increase of 298 cases, as the result of one additional Psychiatrist. The total work load was 20,186, which represented an increase of 819 periods.

Age and Sex Distribution: The sex ratio was 1.8 males to 1.0 females.

Age Distribution	Percentage
0 to 4	11.00%
5 to 19	85.93%
20 and over	3.07%

Classification of Types of New Cases: During the past three years an increasing number of Mental Defectives were seen in assisting the establishment of Opportunity Classes and Schools for Retarded Children; otherwise, there was little change in the percentage of persons seen in each classification.

Breakdown of Cases Seen in Edmonton and Rural Areas:

CLINIC AREA	New Cases	Re-Registered Cases	Increase or Decrease
Edmonton	903	472	plus 151
Edmonton Rural	192	9	plus 34
Athabasca - Lac La Biche	41	14	plus 4
Barrhead - Westlock - Thorhild	42	6	minus 15
Camrose - Killam	32	5	plus 2
Edson	31	3	plus 1
Fort McMurray	19	.....	plus 19
Lamont - Smoky Lake - Holden	48	4	plus 16
Peace River - Grande Prairie	213	71	plus 84
Bonnyville - St. Paul - Two Hills	57	17	minus 16
Vegreville - Vermilion - Wainwright	87	36	.....
Wetaskiwin	54	15	plus 18
TOTAL	1,719	652	plus 329
			minus 31
			plus 298

Work Load for 1963—20,186 for an increase of 819.

PROVINCIAL GUIDANCE CLINIC, PONOKA

**F. J. Edwards, M.D.C.M., Specialist in Psychiatry, R.C.P.S.(C.),
Clinic Psychiatrist**

During 1963 Guidance Clinics were again conducted by members of the staff of the Provincial Mental Hospital, Ponoka, on a part-time basis. The work was carried out by various members of the medical staff, social workers and psychologists. There was a fairly steady demand for Guidance Clinic services for both children and adults but it was only possible to give rather limited service because of the time element involved, the staff engaging in this work being full-time hospital personnel. For statistical purposes, the writer will in this report include former patients who were seen at the Provincial Mental Hospital, Ponoka or, periodically, at the Provincial Guidance Clinic office in Calgary, by members of the Provincial Mental Hospital medical staff. Children were seen at Clinics in Ponoka, Castor and Stettler. In 1963 a total of 229 cases was seen — 48 new and 181 re-registered cases.

Ponoka and Calgary: Forty-one new and 177 re-registered cases were seen for a total of 218 cases. The cases were referred by general practitioners, parents, self, school and Health Units. Two clinics were held in the Town of Ponoka.

Stettler and Castor: One Clinic was held in each of the aforementioned towns. A total of 11 cases was seen — seven new and four re-registered. These were referred by schools and the Health Unit.

As in previous years, those examined were persons who presented some psychiatric, emotional or educational problem which was causing difficulty in adjustment in the home, school or community. In each case, efforts were made to evaluate the situation, and to come to some conclusion as to its cause. Advice was offered as to ways and means of dealing with the presenting situation, which often involved an attempt at environmental manipulation. Where local practitioners were involved, advice was given as required. In cases where epilepsy was considered in the differential diagnosis, arrangements were made for electroencephalography at the Provincial Mental Hospital, Ponoka. Educational problems, including reading difficulties as well as speech disorders, offered particular problems to the Clinic.

PROVINCIAL GUIDANCE CLINIC, RED DEER

**L. J. le Vann, L.R.C.P. Edin., L.R.C.S., Edin.,
L.R.F.P.S. Glas., Clinic Psychiatrist**

Work Load: The work of the Provincial Guidance Clinic at Red Deer increased more than 50 per cent over that of the previous year. Comparable figures for 1963 and 1962 in relation to interviews and psychotherapy sessions are submitted:

	Work Load (Interviews and Therapy Sessions)	
	1963	1962
Psychiatrist	529	358
Psychologists and Social Workers	756	474
Total	1,285	832
Psychometric and Projective Testing	149	82

In view of the difficulty of securing social workers, the dichotomy of social worker and psychologist has largely been eradicated. Since it

was found that the psychologists who functioned as therapists at this clinic, could cope equally well in obtaining social histories and social assessments, no difficulty was experienced in utilizing this procedure.

It was generally felt that the additional training and technical experience of the psychologist has provided a more useful and versatile person insofar as the clinic workload was concerned.

Age and Sex Distribution:

The major portion of referrals, 86 per cent, were under the age of twenty years. Adult referrals were also treated and represented the remaining fourteen per cent.

Referring Agencies:

Requests for examinations, assessments and treatment continued to increase over those of previous years.

Some requests for Guidance Clinic services could not be acceded to due to the large number of referrals by local physicians, the Medical Officer of Health for Red Deer, the Municipal Educational Psychologist, as well as Magistrates and Court Judges. The Clinic also dealt with people applying for chronic disability pensions, referred by the Medical Review Board.

PROVINCIAL GUIDANCE CLINIC, CALGARY

N. C. Horne, M.B., M.R.C.S., D.P.M., Clinic Psychiatrist

In the year 1963 the new Clinic premises gradually became furnished and equipped so that adequate circumstances were combined with the more efficient and pleasant surroundings.

The establishment of professional workers, full-time was:

Psychiatrists	4
Psychologists	6
Psychiatric Social Workers	6

Part-time, half-time workers were employed increasingly and proved their worth in work out-put, stability and loyalty.

Although still understaffed, the staff situation was more stable in 1963.

At year's end the situation was:

Full-time Psychiatrists	2	Part-time, half-time	0
Full-time Psychologists	4	Part-time, half-time	0
Full-time Psychiatric Social Workers	3	Part-time, half-time	3
	<u>9</u>		<u>3</u>

TOTAL FULL-TIME STAFF—10½

Of these, four full-time workers and two half-time workers had a continued service of over twelve months. The half-time workers proved to be steady, reliable, consistent, loyal workers.

One staff member left for further education under a Provincial Training Grant to obtain his Ph.D. in Psychology at the University of Ottawa. During the year two full-time and one half-time staff resigned for various reasons.

The demand for Clinic services continued.

TOTAL SERVICE FOR THE YEAR 1963:

New cases	551	(530)	Increase	21
Re-registered	554	(514)	Increase	40
	<u>1,105</u>	<u>(1,044)</u>	Increase	<u>61</u>

WORK LOAD:

Psychiatrists	4,077	(3,511)	Increase	566
Psychologists	3,438	(3,219)	Increase	219
Psychiatric Social Workers	4,312	(2,813)	Increase	1,499
	11,827	(9,543)	Increase	2,284

The increase in the workload resulted from the slow increase of basic stable workers, (still however below establishment) and was not yet an optimum amount of work, as newcomers need time to settle in and to train.

AGE AND SEX DISTRIBUTION OF NEW CASES:

Age Distribution	Percentage
0 - 4	13.0
5 - 9	34.3
10 - 14	27.9
15 - 19	15.4
19 years and over	9.4
	100.0

Proportion of males to females 1.9 to 1.0

REFERRALS TO THE CLINIC WERE MADE UP AS FOLLOWS:

Referral Source	Percentage
Self and Family	34.3
Child Welfare Agencies	19.2
Private Doctors and Medical Clinics	16.3
Schools	15.8
Health Units	10.2
Miscellaneous Sources	4.2
	100.0

One hundred and nineteen mentally defective cases were examined, an increase of 40 over the previous year. Of these 14 were recommended for admission to the Provincial Training School, Red Deer, and three to Deerhome.

No emotionally disturbed cases were admitted to Linden House, Red Deer.

Two hundred and forty-nine cases were treated in the Clinic, of which 10 were on drug therapy:

New cases	146
Old cases, continued into 1963	103
Terminated in 1963	118
Improved	83
Unchanged	35
Continued into 1964	131
Number on drugs in 1963:	
New	6
Old	4

Group therapy arrangements increased over the year so that there were four young groups, one adolescent group and one adult group established. Family group therapy was increasingly used as experience grew.

RURAL DISTRICTS

Number of visits	Cases Seen		Psychiatrist	Work Load		Psychiatric Social Worker	Total
	New	Old		Psychologist			
Drumheller							
2	5	5	37	16		18	71
Three Hills							
3	11	1	48	24		24	96
Hanna							
5	17	6	102	40		40	182
10	33	12	187	80		82	349

The total workload of 349 units represented 2.8 per cent of the work done in the Clinic throughout the year.

Educational Activities

Twelve talks, addresses and special demonstrations were carried out throughout the year.

There were three special visits to the Clinic by Dr. Morgan, Dr. J. B. Aiken, and Miss Jean Dorgan, Consultant in Social Work, National Department of Health and Welfare.

In-service training was carried out for all staff for a period of two hours per week throughout the year. During this time a span of 14 hours of orthodox lectures was covered by the Clinic Director, the remaining 90 hours being spent as a group.

Visiting Psychiatrists

Psychiatrists from the Provincial Mental Hospital, Ponoka, continued to visit regularly in order to follow up discharged patients and interview others. The liaison continued to be very satisfactory to all concerned.

PROVINCIAL GUIDANCE CLINIC, LETHBRIDGE

John Bower, M.D., D.P.M., Clinic Psychiatrist

The Clinic staff consisted of one full-time psychiatrist, together with a full-time psychiatric social worker and a full-time psychologist. During part of 1963 there were also on staff one final year student in psychology and two staff members with B.A. degrees who acted as social workers. There were two clerical staff members.

Lethbridge Workload

During the year a total of 444 new cases were registered and 162 re-registered cases were also seen, for a total workload of 3,783 periods. The staff also worked in the Branch Clinic at Medicine Hat, the figures for which appear separately.

Treatment Procedures

A large increase in the number of cases being treated was noted with individual psychotherapy, play therapy and hypnosis being used. Many cases were discharged from treatment as having benefited and the majority of those being treated were helped.

Work with Other Institutions

Consultant services were given to the School for Retarded Children, to the law courts and to the police. Visits were made to the prison on request, and some inmates of that institution were brought to the Guidance Clinic. Here they were examined and, in those cases requiring more therapy, helped to better advantage. One or two visits were made to the Provincial Auxiliary Mental Hospitals at Claresholm and Raymond. Many cases were seen by clinic staff members in the local hospitals and domiciliary visits were made if needed.

Public Education

Many speaking engagements were carried out by staff members, as well as participation in educational and social welfare conferences. Mental Health was discussed in both radio and television appearances, and favourable comment was received. The usual good relations were maintained with local physicians, lawyers, and clergy, many of whom attended conferences and clinical discussions.

Rural Clinic Visits

Vulcan—Because of popular demand, service was commenced in Vulcan with a clinic team of psychiatrist, psychiatric social worker and psychologist visiting. Many conferences were held there with teachers, doctors, the welfare service and others. There were 14 registrations and seven re-registrations with a workload of 131 periods.

Pincher Creek—Registrations totalled seven with five re-registrations for a workload of 66 periods. Here again conferences were held with doctors, clergy and teachers. The latter were most cooperative and it was possible to have a conference on almost every case.

Crowsnest Pass—Registrations in the Crowsnest Pass area were five with five re-registrations, for a work period of 27 units.

Many cases from Pincher Creek and the Crowsnest Pass came to Lethbridge and are not shown on the above break-downs.

Training Programs

Because of changing staff positions, the in-service portion of this was variable, but the usual lectures to student nurses were given. An interesting research program, involving student nurse selection, was commenced on a three-year basis initially.

Appreciation

Many individuals called and wrote to express their appreciation of the Clinic's services. This kind recognition was gratefully received.

MEDICINE HAT—BRANCH OF THE PROVINCIAL GUIDANCE CLINIC, LETHBRIDGE

John Bower, M.D., D.P.M., Clinic Psychiatrist

In April 1961, this Clinic opened as a full-time branch of the Provincial Guidance Clinic at Lethbridge, having been originally established as a part-time clinic on November 16th, 1933. The Provincial Guidance Clinic at Medicine Hat serves an area which extends to the towns of Bassano, Brooks and Bow Island on the west, to the United States' border on the south, east to the Saskatchewan border, and north approximately to the Red Deer River.

Staff

The psychiatrist in charge of the Lethbridge Clinic was also in charge of the Medicine Hat facility and visited monthly. Psychological services were also provided from Lethbridge with occasional social work

assistance as well. The full-time staff consisted of one full-time psychiatric social worker and one clerical staff member.

Workload

Registrations for new cases totalled 88 and re-registrations were 48. There was a total workload of 1,282 periods.

Services Provided

Diagnostic services, recommendations to referral sources, assessment of students considered for special classes which were being established in the City of Medicine Hat, as well as some individual psychotherapy to children and adults, were provided by the Clinic.

Public Education

Public information, regarding mental health topics, was provided whenever possible, through lectures, addresses and clinic demonstrations. Every effort was made to interpret the work of the Clinic, particularly in respect to its preventive and restorative functions.

Appreciation

The support of school administrative personnel, medical practitioners, public health nursing staffs, social agency staffs, and others, was most heartening and very greatly appreciated. It is hoped the Clinic services may be progressively expanded to meet the increasing demands of the community.

TABLE 1
SUMMARY OF NEW AND RE-REGISTERED CASES EXAMINED, TREATMENT PERIODS, INTERVIEWS,
PSYCHOLOGICAL EXAMINATIONS, AND TOTAL WORK LOAD OF CLINICS

CLINIC DISTRICTS	NEW CASES			RE-REGISTERED CASES			DISTRIBUTION OF WORK				TOTAL WORK LOAD
	M	F	T	M	F	T	Pat.	Col.	Gen.	P.E.	
Edmonton and District ...	1106	613	1719	425	227	652	4392	7340	6136	2318	20,186
Calgary and District ...	369	182	551	395	159	554	2498	3158	5348	823	11,827
Lethbridge, Medicine Hat and Districts ...	271	287	558	119	108	227	1740	2435	394	720	5,289
Ponoka and Red Deer District ...	89	89	178	127	91	218	798	627	28	174	1,627
TOTALS	1835	1171	3006	1066	585	1651	9428	13,560	11,906	4085	38,929

Notes: Total new cases examined since the Clinics opened in 1929 is now 34,851.

Edmonton and District includes all the area served from Wetaskiwin north. It includes Clinics held in the Peace River - Grande Prairie area and such points as Athabasca, Barrhead, Bonnyville, Camrose, Edson, Holden, Killam, Lac La Biche, Lamont, St. Paul, Two Hills, Vegreville, Vermilion, Wainwright, Westlock and Wetaskiwin.

Calgary and District includes the area served south of Didsbury, excluding the Lethbridge - Medicine Hat area. It includes Clinics held at such points as Didsbury, Drumheller, Cochrane, High River and Strathmore.

Lethbridge, Medicine Hat and Districts include the area in the far south of the Province, with Clinics held at such points as Fort Macleod, Claresholm, Cardston and the Crowsnest Pass.

Ponoka and Red Deer District includes the area from Didsbury on the south to Wetaskiwin on the north. It includes Clinics at such points as Castor, Ponoka, Red Deer, Rimbey, Rocky Mountain House and Stettler.

Re-registered cases are those that have been examined previously at a Clinic, and are seen again for further consultation and/or treatment.

Pat.—Patient contacts including treatment periods.

Col.—Collateral, or contacts with a patient's parents, or relatives, or with others closely interested.

Gen.—General contacts regarding Clinic activities and work, including those with other Agencies and Community Services. It includes as well talks and addresses, and teaching periods by staff members.

P.E.—Psychological examinations and tests.

Total Work Load—This is the sum of the periods of work noted under each of the four headings Patient, Collateral, General and Psychological Examinations.

TABLE 2
AGE AND SEX CLASSIFICATION OF NEW CLINIC CASES

AGE GROUP	EDMONTON AND DISTRICT			CALGARY AND DISTRICT			LETHBRIDGE, MEDICINE HAT AND DISTRICTS			PONOKA AND RED DEER DISTRICT			TOTALS			PERCENTAGES		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
0 - 4	125	64	189	50	21	71	13	13	26	10	8	18	198	106	304	10.9	9.0	10.1
5 - 9	504	255	759	133	56	189	87	43	130	30	18	48	754	372	1126	42.0	31.8	37.5
10 - 14	351	164	515	106	48	154	42	31	73	18	9	27	517	252	769	28.3	21.5	25.5
15 - 19	106	97	203	55	30	85	45	130	175	11	19	30	217	276	493	10.3	23.6	16.4
20 - 24	7	10	17	8	10	18	29	16	45	7	5	12	51	41	92	2.9	3.5	3.0
25 - 29	3	7	10	9	6	15	11	14	25	4	10	14	27	37	64	1.5	3.1	2.2
30 - 34	4	5	9	1	6	7	11	15	26	3	5	8	19	31	50	1.0	2.7	1.7
35 - 39	3	2	5	2	1	3	17	3	20	1	7	8	23	13	36	1.3	1.1	1.2
40 - 44	2	2	4	1	1	2	1	4	5	1	2	3	5	9	14	0.3	0.8	0.5
45 - 49	0	3	3	3	3	6	7	2	9	1	0	8	11	8	19	0.7	0.7	0.6
50 and over	1	4	5	1	0	1	7	15	22	3	5	8	12	24	36	0.7	2.1	1.2
Unknown	0	0	0	0	0	0	1	1	2	0	1	1	1	2	3	0.1	0.1	0.1
TOTALS	1106	613	1719	369	182	551	271	287	558	89	89	178	1835	1171	3006	100.0	100.0	100.0

TABLE 3A
DIAGNOSTIC CLASSIFICATION OF NEW CLINIC CASES—PRE-SCHOOL GROUP (0 to 5 years 11 months)

Nature of Case	Edmonton and District			Calgary and District			Lethbridge, Medicine Hat and Districts			Ponoka and Red Deer District			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Educational Problem with Adequate Intellect	35	18	53	6	6	12	0	0	0	1	42	24	66		
Intellectual Inadequacy	70	39	109	21	15	36	8	10	18	6	105	72	177		
Emotional Disorder	37	26	63	13	8	21	6	12	18	2	38	37	95		
Thinking Disorder	0	0	0	0	0	0	1	1	2	0	1	1	2		
Speech Disorder	11	8	19	5	1	6	0	0	0	1	17	9	26		
Feeding Habits	0	0	0	0	0	0	0	0	0	0	0	0	0		
Sleep Disturbances	1	1	2	1	1	2	0	0	0	0	1	2	3		
Anti-Social Tendencies	1	1	2	2	0	2	0	0	0	0	1	1	4		
Sexual Difficulties	0	0	0	1	0	1	0	0	0	0	0	0	1		
Attack Disorders	3	0	3	1	0	1	0	0	0	0	4	0	4		
Psychoses	1	0	1	0	0	0	0	0	0	0	1	1	2		
Non-Psychotic	3	0	3	0	0	0	0	0	0	0	3	0	3		
Normal Child	0	1	1	0	0	0	0	0	0	1	1	1	2		
Undiagnosed	12	12	24	14	9	23	4	5	9	4	34	28	62		
	9	1	10	2	1	3	8	5	13	0	19	7	26		
TOTALS	182	107	289	65	43	108	27	23	50	15	289	184	473		

TABLE 3B
DIAGNOSTIC CLASSIFICATION OF NEW CLINIC CASES—SCHOOL AGE GROUP (6 to 18 years 11 months)

Nature of Case	Edmonton and District			Calgary and District			Lethbridge, Medicine Hat and Districts			Ponoka and Red Deer District			Totals	
	M		T	M		T	M		T	M		T	M	F
	M	F	T	M	F	T	M	F	T	M	F	T		
Educational Problem with Adequate Intellect	319	120	439	62	14	76	26	6	32	14	8	22	421	148
Intellectual Inadequacy	107	89	196	31	22	53	32	31	63	7	8	15	177	569
Emotional Disorder	256	151	407	60	34	94	16	19	35	2	5	7	334	327
Thinking Disorder	10	6	16	9	2	11	0	0	0	1	0	1	20	150
Speech Disorder	24	9	33	2	2	4	5	0	5	2	0	2	33	543
Stuttering	0	1	1	1	1	2	0	0	0	0	0	0	2	8
Feeding Habits	0	1	1	1	1	2	0	0	0	0	0	0	0	11
Sleep Disturbances	73	25	98	53	13	66	11	5	16	15	0	0	152	44
Anti-Social Tendencies	12	3	15	6	0	6	2	1	3	0	0	0	2	2
Speech Difficulties	14	10	24	4	0	4	2	1	3	0	0	0	11	200
Attack Disorders	5	14	19	3	1	4	2	2	4	0	0	1	15	4
Psychoneuroses	9	11	20	4	1	5	3	3	6	0	0	2	11	15
Psychoses	33	18	51	29	16	45	8	1	9	3	2	5	17	32
Non-Psychotic	36	15	51	15	2	17	42	8	21	9	6	15	79	18
Normal Child														
Undiagnosed														
TOTALS	894	473	1367	279	112	391	149	173	322	54	39	93	1376	797

TABLE 3C
DIAGNOSTIC CLASSIFICATION OF NEW CLINIC CASES—ADULT GROUP (19 years and over)

Nature of Case	Edmonton and District			Calgary and District			Lethbridge, Medicine Hat and Districts			Ponoka and Red Deer District			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Educational Problem with Adequate Intellect	3	0	3	1	2	2	3	0	0	0	0	0	4	2	6
Intellectual Inadequacy	8	9	17	5	5	2	7	13	8	1	1	2	24	23	47
Emotional Disorder	1	2	3	1	1	2	3	1	4	0	0	2	3	10	13
Thinking Disorder	2	0	2	1	1	2	2	0	0	0	0	0	3	1	4
Speech Disorder	1	0	1	1	0	1	1	0	0	0	0	1	2	1	3
Faulty Feeding Habits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sleep Disturbances	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1
Anti-Social Trends	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Sexual Difficulties	1	0	1	0	0	0	0	4	0	0	0	0	1	0	1
Attack Disorders	1	0	1	1	1	2	3	2	1	0	0	1	5	3	8
Psychoneuroses	1	2	3	0	0	0	1	1	1	0	0	0	3	3	6
Psychoses	3	3	6	3	4	7	7	7	11	2	0	16	17	34	51
Non-Psychotic	1	4	5	1	1	2	2	10	15	4	4	12	16	28	44
Normal	7	12	19	6	6	12	13	13	14	4	0	8	30	23	53
Undiagnosed	0	0	0	4	1	5	5	16	23	0	0	0	20	21	41
.....	1	1	2	2	4	6	6	28	27	7	6	13	38	38	76
TOTALS: Table 3C	30	33	63	25	27	52	52	95	91	20	39	59	170	190	360
Table 3B	894	473	1367	279	112	391	391	149	173	54	39	93	1376	797	2173
Table 3A	182	107	289	65	43	108	108	27	23	15	11	26	289	184	473
GRAND TOTALS	1106	613	1719	369	182	551	551	271	287	89	89	178	1835	1171	3006

TABLE 4
SOURCES REFERRING NEW CASES TO THE CLINICS

Referring Source	Edmonton and District			Calgary and District			Lethbridge, Medicine Hat and Districts			Ponoka and Red Deer District			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Schools and School Authorities	415	163	578	64	23	87	52	141	193	18	8	26	549	335	884
Private Doctors and Medical Clinics	175	114	289	54	25	79	79	50	62	26	46	72	305	247	552
Medical Clinics as Rehabilitation, Cerebral Palsy, I. E. O. P. D.															
Health Units	23	22	45	7	4	11	3	5	8	1	1	2	34	32	66
Health Units, Medical Health Officers, Public Health Nurses															
Child Welfare Agencies—Provincial and Municipal	125	96	221	35	17	52	42	20	62	12	9	21	214	142	356
Juvenile and Family Court, Juvenile Offenders	110	50	160	58	34	92	17	13	30	6	5	11	191	102	293
Branch, Bowden Institution	6	5	11	12	2	14	6	1	7	7	1	8	31	9	40
Provincial Gaols, Adult Courts	2	1	3	0	1	1	14	4	18	1	0	1	17	6	23
Parents, Relatives, Friends, and Self	224	145	369	124	65	189	67	34	101	13	14	27	428	258	686
Department of Public Health	14	11	25	2	2	4	2	2	4	0	0	0	18	15	33
Other Sources	12	6	18	13	9	22	18	5	23	5	5	10	48	25	73
TOTALS	1106	613	1719	369	182	551	271	287	558	89	89	178	1835	1171	3006

TABLE 5
MAJOR RECOMMENDATIONS MADE IN REGARD TO NEW CLINIC CASES

Recommendations	Edmonton and District			Calgary and District			Lethbridge, Medicine Hat and Districts			Ponoka and Red Deer District			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Admission to:															
(a) Mental Hospital	3	8	11	1	0	1	6	14	20	3	6	9	13	28	41
(b) Provincial Training School and Deerhome	32	22	54	9	8	17	4	7	11	3	6	9	48	43	91
Placement in:															
(a) Protective or Correctional Home or Institution	21	15	36	4	3	7	1	0	1	4	6	10	30	24	54
(b) Foster Home	26	9	35	3	2	5	1	1	2	0	0	0	30	12	42
Educational Advice:															
(a) Modified School Program or Special Class Placement	293	145	438	18	5	23	34	17	51	6	6	12	351	173	524
(b) Vocational Counselling	5	7	12	3	1	4	1	0	1	2	3	5	11	11	22
(c) Other	121	76	197	9	7	16	15	8	23	9	4	13	154	95	249
Modified Home Management	201	89	290	7	2	9	20	10	30	3	1	4	231	102	333
Referred for Medical Treatment	87	61	148	0	0	0	11	9	20	13	16	29	111	86	197
Treatment in Guidance Clinic	210	126	336	127	48	175	49	34	83	37	30	67	423	238	661
Other Recommendations	107	55	162	188	106	294	129	187	316	9	11	20	433	359	792
TOTALS	1106	613	1719	369	182	551	271	287	558	89	88	178	1835	1171	3006

TABLE II
SUMMARY OF THE NUMBER OF MENTAL DEFECTIVES EXAMINED, BY YEARS

Year	I.Q. 0 to 25 Probably Idiots			I.Q. 26 to 50 Probably Imbeciles			I.Q. 51 to 75 Probably Morons			I.Q. Unknown. Mental Deficiency Indicated			Totals			Percentage of New Cases	Cumulative Totals
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T		
Number of Mental Defectives Examined to 1956.																	
1956	7	5	12	65	46	111	146	88	234	27	21	48	245	160	405	25.0%	4923
1957	11	13	24	40	32	72	115	86	201	18	23	41	184	154	338	20.7%	5266
1958	16	11	27	38	29	67	119	80	199	24	27	51	197	147	344	18.7%	5610
1959	13	10	23	56	44	100	159	121	280	27	15	42	255	190	445	22.3%	6055
1960	3	1	4	37	34	71	137	98	235	20	11	31	197	144	341	16.2%	6396
1961	13	14	27	40	33	73	154	118	272	55	38	93	262	203	465	20.2%	6861
1962	10	9	19	51	42	93	142	106	248	46	40	86	249	197	446	16.9%	7307
1963	20	10	30	59	48	107	194	142	336	76	53	129	349	253	602	20.0%	7909

Notes: I.Q.—Intelligence Quotient

M—Male F—Female T—Totals

ACTIVE TREATMENT MENTAL HOSPITALS

THE PROVINCIAL MENTAL HOSPITAL, PONOKA

THE PROVINCIAL MENTAL INSTITUTE, EDMONTON

The Provincial Mental Hospital, Ponoka, admitted 1,159 patients—(655 males, 504 females—including re-admissions). The Provincial Mental Institute, Edmonton, admitted 1,527 patients—(868 males, 659 females—including re-admissions). The total number of admissions to these Hospitals was 2,686 patients—(1,523 males, 1,163 females). The total number of admissions (including re-admissions), was 304 greater than the previous year. Again this increase might be explained in part by the increased demand for the admission of seniles, and an increase in the general population of the Province. The Provincial Mental Hospital, Ponoka, admitted 41 remand cases, whereas the Provincial Mental Institute, Edmonton, reported the admission of 214 remand cases in the same period.

The discharge rate of the two hospitals averaged approximately 84 per cent. This was about the same as the previous year.

The combined population of the Provincial Mental Hospital, Ponoka, and the Provincial Mental Institute, Edmonton, on December 31st, 1963, numbered 2,503—(1,648 males, 855 females), a decrease of 58 over the previous year.

Both active treatment hospitals reported increased activity in their treatment programs consisting of the use of tranquillizer and antidepressant drugs, group and individual therapy and activities, and occupational therapies. It was again reported that electro-convulsant and insulin coma treatments were reduced in number. Emphasis was placed again on the "open-door" policy.

It will be noted by the reports of these hospitals that formalized programs have been instituted for the treatment of Alcoholics. These programs have been meeting with considerable success and the projects have been expanding.

The Provincial Mental Hospital, Ponoka, transferred 10 mentally deficient patients to Deerhome; and the Provincial Mental Institute, Edmonton, transferred four mentally deficient patients to the same institution. The Provincial Mental Hospital, Ponoka, transferred 61 senile patients to Rosehaven, Camrose; and the Provincial Mental Institute, Edmonton, transferred 83 senile patients to the same institution during the year.

During the year a committee of fourteen, appointed by The Honourable, the Minister of Health, met on many occasions with a view to formulating a new Mental Health Act. It is expected this Act will be promulgated in the coming year.

The various Nurses' Training Programs continued in both active treatment mental hospitals. Twelve students completed the four-year course in General and Psychiatric Nursing at the Provincial Mental Hospital, Ponoka. Seven male students completed the three-year course in Psychiatric Nursing, and twelve Graduate Nurses completed the six-month Post-Basic Course at the same hospital. In addition, 259 undergraduate students from the General Hospital Schools of Nursing of the southern part of Alberta received the eight-week affiliation course in Psychiatric Nursing in the Provincial Mental Hospital, Ponoka. At the Provincial Mental Institute, Edmonton, 17 students (eight men, nine women) completed the three-year course in Psychiatric Nursing, while 240 affiliating students from the General Hospital Nursing Schools in the northern part of the Province received a period of eight weeks' training.

Of major importance during the year was the continuation of construction of a reception-admission building at the Provincial Mental Hospital, Ponoka. The renovation of one building at the Provincial Mental Institute, Edmonton, was completed.

TABLE 1
TABULATED SUMMARY—INSTITUTIONS—MOVEMENT OF POPULATION

Institutions	Patients in Hospital December 31, 1962			Admissions (Excluding Transfers)			Discharges (Excluding Transfers)			Deaths			Patients in Hospital December 31, 1963		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
ACUTE MENTAL HOSPITALS:															
P.M.H., Ponoka	703	417	1120	655	504	1159	581	448	1029	51	30	81	669	393	1062
P.M.I., Edmonton	945	496	1441	868	659	1527	707	538	1245	74	58	132	979	462	1441
Total	1648	913	2561	1523	1163	2686	1288	986	2274	125	88	213	1648	855	2503
CHRONIC MENTAL HOSPITALS:															
Rosehaven, Camrose	279	220	499	0	2	2	2	1	3	83	56	139	285	216	501
P.A.M.H., Claresholm	0	107	107	0	1	1	0	0	0	0	4	4	0	196	196
P.A.M.H., Raymond	0	120	120	0	7	7	0	0	0	0	6	6	0	124	124
Total	279	447	726	0	10	10	2	1	3	83	66	149	285	536	821
INSTITUTIONS FOR MENTAL DEFECTIVES,															
RED DEER:															
Provincial Training School	446	350	796	57	37	94	16	13	29	4	6	10	477	367	844
Deerhome	495	449	944	21	18	39	0	4	4	10	14	24	512	446	958
Total	941	799	1740	78	55	133	16	17	33	14	20	34	989	813	1802
UNIT FOR EMOTIONALLY DISTURBED															
CHILDREN:															
Linden House, Red Deer	14	6	20	2	4	6	3	3	6	0	0	0	12	6	18
Overall Totals	2882	2165	5047	1603	1232	2835	1309	1007	2316	222	174	396	2934	2210	5144

TABLE 2
FIRST ADMISSIONS DURING 1963 BY PSYCHOSES

DIAGNOSTIC CLASSIFICATION	Male	Female	Total
Schizophrenia (All Categories)	123	113	236
Manic Depressive (All Categories)	23	11	34
Involuntary Melancholia	24	33	57
Paranoia and Paranoid States	16	11	27
Senile Psychosis	70	75	145
Pre-Senile Psychosis	13	1	14
Psychosis with Cerebral Arteriosclerosis	87	65	152
Alcoholic Psychosis	22	6	28
Psychosis of Other Demonstrable Etiology	8	7	15
Other and Unspecified Psychoses	20	23	43
Anxiety Reaction	14	6	20
Hysterical Reaction	5	8	13
Obsessive Compulsive Reaction	1	0	1
Neurotic Depressive Reaction	46	64	110
Other and Unspecified Psychoneurotic Reactions	12	27	39
Pathological Personality (All Categories)	83	27	110
Immature Personality	17	22	39
Childhood Behaviour Disorders	9	9	18
Alcoholism Without Psychosis	186	24	210
Other Drug Addiction	1	0	1
Mental Deficiency Without Psychosis	18	21	39
Other and Unspecified Disorders of Character, Behaviour and Intelligence	8	9	17
Epilepsy	4	7	11
Huntington's Chorea	1	0	1
Mental Observation Without Need for Psychiatric Care	35	19	54
Depression	1	0	1
Puerperal Psychosis	0	5	5
Other Non-Psychiatric Conditions	3	0	3
TOTALS	850	593	1,443

TABLE 3—TABULATED SUMMARY OF DEATHS IN INSTITUTIONS DURING 1963

DISEASE	P.M.H., Ponoka			P.M.I., Edmonton			P.A.M.H., Claresholm			P.A.M.H., Raymond			Rosehaven Camrose			P.T.S., Red Deer			Deerhome, Red Deer			TOTALS		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Syphilis and its Sequelae	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
All other Diseases Classified as Infective and Parasitic	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5
Neoplasms Malignant	4	1	5	10	8	18	0	0	1	1	3	0	2	0	3	0	0	0	1	1	17	11	28	1
Diabetes Mellitus	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Anaemias	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	1	0
Vascular Lesions affecting Central Nervous System	5	2	7	7	10	17	0	1	1	0	0	0	1	4	5	0	0	0	1	0	14	17	31	1
Chronic Rheumatic Heart Disease	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Arteriosclerotic and Degenerative Heart Disease	7	8	15	13	12	25	0	3	3	0	2	2	25	18	43	0	0	0	2	0	47	43	90	0
Other Diseases of the Heart	2	5	7	8	1	9	0	0	0	0	1	1	0	0	0	0	0	0	1	2	11	7	18	2
Hypertension without Mention of Heart	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0
Influenza	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Pneumonia	24	9	33	23	17	40	0	0	0	0	0	0	52	32	84	1	2	3	4	10	14	104	70	174
Bronchitis	0	1	1	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	0
Ulcer of Stomach and Duodenum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1
Appendicitis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1
Intestinal Obstruction and Hernia	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Cirrhosis of Liver	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	1
Nephritis and Nephrosis	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Other Diseases peculiar to Early Infancy and Immaturity Unqualified	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Senility without mention of Psychosis, Ill-defined and Unknown Causes	3	1	4	4	1	5	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	1
All other Diseases	4	2	6	3	2	5	0	0	0	0	1	1	0	0	0	3	2	5	0	0	7	2	9	0
All other Accidents	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	10	8	18	0	
Suicide and Self-inflicted Injury, Including Effects of Poisons	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
GRAND TOTALS	51	30	81	74	58	132	0	4	4	0	6	6	83	56	139	4	6	10	14	24	222	174	396	0

NOTE: Linden House—Unit for Emotionally Disturbed Children—No Deaths.

PROVINCIAL MENTAL HOSPITAL, PONOKA

T. C. Michie, M.D., R.C.P.S.(C.), Medical Superintendent

PATIENT POPULATION CHANGES

The number of patients in residence on January 1st, 1963 totalled 1,120, of whom 703 were male, and 417 female. On December 31st, 1963, 1,062 patients were in residence, of whom 669 were male, and 393 female.

ADMISSION OF PATIENTS

Exclusive of transfers from other Provincial Psychiatric facilities, there were 1,159 admissions, and of these 655 were male, and 504 female. About six per cent of these were admitted under a provision of "The Criminal Code of Canada", and all others under "The Mental Diseases Act"; and approximately half of the latter came by voluntary application.

Seven patients were received by transfer.

The number of first admissions was the highest in the history of the hospital.

There was a sharp increase in the number of re-admissions. The diagnostic categories responsible for this were essentially the alcoholics, the neurotics and those with pathological personalities. In other words, it was the non-psychotic patients who caused the increase in the re-admission rate.

The overall increase of admissions was 174, compared to 1962.

SEPARATION OF PATIENTS

There were 1,029 discharges, 581 being male and 448 female. This was an increase of 151 over the previous year.

106 patients were transferred to other Provincial Institutions.

There were 81 deaths.

The general details as to patient movement are set out in Table I.

ACCIDENTS AND ELOPEMENTS

11 men and 7 women suffered fractures. Almost all of these were among the aged.

There was one suicide.

Those who left the hospital without permission were relatively few in number.

GENERAL HEALTH OF PATIENTS

There were no epidemics. In general, the health of the patients was well maintained.

Two patients were transferred to the Tuberculosis Unit at the Provincial Mental Institute, Edmonton, for investigation and treatment. Several patients were transferred there temporarily for easier access to the Cancer Clinic.

CLINICAL WORK

There was continued stress on group therapy with varying approaches depending on the needs of the individuals in that particular group.

Wide use was made of the newer drugs and modified electroconvulsive therapy was utilized, when indicated.

For many years, alcoholics have been treated at this hospital, but in March, a new approach was made, and continued throughout the year. A formalized program was instituted with the help and guidance of the Alcoholism Foundation of Alberta, and members of Alcoholics Anonymous. One of the staff physicians directed the project and members of the nursing staff, after special instruction, assisted in the didactic lectures and general supervision of other activities. The results were encouraging. The main difficulty encountered was the excessive number who sought admission to the hospital for participation in the program.

Wide use was made of Occupational Therapy in the broadest sense. The crafts were utilized for the moving population of short-term patients. For those requiring more prolonged care, a great variety of activities were arranged, many of which resulted in small monetary returns to groups or individuals. These projects called for the co-operation and collaboration of many people in the area served by the hospital.

Private practitioners from the Town of Ponoka continued to give valued assistance in the treatment of the physically ill, among the patients.

Whenever the need arose, Consultants were called in from Edmonton or Red Deer. The physically ill patients, in need of Specialists' care, were transferred to General Hospitals in Edmonton or Red Deer for investigation and treatment.

The Cancer Clinic in Edmonton freely received patients for investigation and treatment.

All electroencephalographic tracings were interpreted by a Neurologist at the University Hospital.

The After-Care Clinic was continued in Calgary bi-weekly, and Sometimes on a weekly basis. The attendance increased, and it appeared likely the service would require extension, probably by operating the Clinic for one day each week, rather than half a day.

A Guidance Clinic team from hospital personnel conducted Clinics at various points in central Alberta. An increasing number of out-patients came to the hospital for help, most having been referred, but some of their own volition.

A limited psychiatric consultant service was provided for patients at Deerhome.

RECREATIONAL THERAPY

It was felt the recreational needs of the patients were adequately met. The program was extremely varied and designed for all age groups, and adapted to the seasons.

An innovation during the year was the availability of a camp site in a rural setting, some miles from the hospital, for picnic purposes

and overnight tenting. The ownership in this was vested in a voluntary organization. Tentative plans were formulated for the further development of this facility.

RELIGIOUS SERVICES

Clergy from the leading denominations in the Town of Ponoka conducted services regularly, and were active in pastoral work among the patients. Arrangements were made for one of the churches whose membership embraces 25 per cent of the resident population, to hold weekly services. The patients of this particular faith had previously been able to attend church once a month. In addition, many patients were in attendance at the local churches in the Town of Ponoka.

SOCIAL SERVICES — SOCIAL WORKERS

The pattern of service given by two men was designed primarily to offer help to individuals or groups. Liaison was maintained with welfare and employment agencies. Many patients were guided back to independence and a productive life. Considerable stress was placed on remotivation projects for long-term patients. This involved individual patients at times, and on other occasions group activities. Industrial contracts were obtained. In instances, these were of sizable proportions. The net monetary returns were divided among the participating patients. With the help of interested organizations, philanthropic and commercial, visits were made by large groups of patients to the Game Farm at Edmonton and the Banff National Park.

PSYCHOLOGICAL SERVICES — PSYCHOLOGISTS

Two Psychologists were employed throughout the year. 1,314 formal tests were administered. The Psychologists assisted with group therapy, the nursing educational program, and in many other aspects of hospital activities.

A Regional Meeting of the Psychologists' Association of Alberta was held at this hospital.

VOLUNTEER SERVICES

Many organizations made contributions in a variety of ways, to patient welfare. Sometimes these were sustained projects, such as the Apparel Shop operated by the Hospital Women's Auxiliary, with the assistance of others, and the development of a camping area by The Canadian Mental Health Association. On other occasions, the project comprised a specific isolated function.

DENTAL SERVICES

A full time Dentist was employed. The patients were referred regularly to him, and almost 2,900 examinations were carried out. The appropriate treatment was given, as indicated. The Dentist also made the regular annual trip to treat patients at the Provincial Auxiliary Mental Hospitals at Claresholm and Raymond.

X-RAY SERVICES

Two Technicians were employed, and over 3,600 plates were taken. All chest plates were referred to the Medical Superintendent of

the Baker Memorial Sanatorium for interpretation. Other X-rays were sent to Specialists in Edmonton and Red Deer, when necessary.

LABORATORY

The staff consisted of one Technician and a part-time Pathologist. The services of the latter contributed greatly to widen the scope of the work done. There was an increase in the number of autopsies, 17 being performed during the year. The Pathologist also entered actively into Medical Educational projects.

MEDICAL EDUCATION

Instructional meetings were arranged weekly, the speaker sometimes being a guest who was a recognized authority in his field, and on other occasions, one of our own staff.

This hospital continued to function as a clinical area for the instruction of senior Medical Students.

Staff Physicians actively participated in activities of the District Medical Society.

A Staff Physician, early in the year, spent approximately two weeks at the Willmar State Hospital, Minnesota studying the treatment plan which has been conducted there for some years in regard to Alcoholism.

A Clinical Director from this hospital attended The Canadian Medical Association Convention in Toronto last June.

One of the Clinical Directors, a Psychologist, and several of the Nursing Staff attended the Group Processes Institute at Banff in September, for a two-week period.

SCHOOL OF NURSING

The Teaching Program was essentially unchanged. There were 50 students in the four-year course leading to qualification in General and Psychiatric Nursing. Twelve students graduated in September.

There were 39 students enrolled in the three-year Psychiatric Nursing Course, and seven graduated in September.

Twelve students were enrolled in the six months Post-Basic Course in Psychiatric Nursing offered to Graduate Nurses, in the spring and fall.

In the Affiliation Course, for under-graduate Student Nurses from General Hospitals Schools of Nursing, 259 were in attendance, each for an eight-week period.

Instruction was given periodically to groups of Nursing Aides and Ward Aides in Elementary Nursing Arts and Psychiatric Nursing.

Twelve students in Public Health Nursing from the University of Alberta spent two weeks in field work at this hospital.

Seven students in Occupational Therapy from the University of Alberta were at the hospital for eight weeks. Part of their instructional work included gaining an insight in Psychiatric Nursing, and otherwise, they were engaged in the practical application of Occupational Therapy.

The Instructional Staff was at full strength, but not all the positions were filled by those with University preparation in Teaching.

VISITORS TO HOSPITAL

There were a number of distinguished visitors to the hospital, including the Lieutenant-Governor, The Honourable J. Percy Page, and The Honourable Dr. J. Donovan Ross, the Minister of Health.

At various times there were groups from schools, volunteer and professional organizations who were shown the facilities. On two occasions, representatives visited from the Federal Health Department.

The number of people coming to visit relatives and friends continued to increase.

The members of the Visiting Board came on several occasions and carried out a detailed inspection of all aspects of the hospital, paying particular attention to patient care.

Dr. Randall R. MacLean, Director of the Division of Mental Health was frequently on the wards. His advice was often sought and freely given.

The Canadian Mental Health Association of Calgary arranged regular monthly bus trips, for the convenience of Calgary and district residents to visit relatives and friends. This service was commenced in March, and proved to be of value.

THE EUGENICS BOARD

The Eugenics Board held three meetings at the hospital. Fourteen patients were presented to the Board, and approved for sexual sterilization. Eleven patients were sterilized.

SURGICAL SERVICES

Surgical services were rendered by visiting Surgeons from Edmonton, Ponoka and Red Deer. Some major surgical cases were transferred to the Red Deer Municipal Hospital, and the University Hospital, Edmonton for treatment.

HOUSEKEEPING DEPARTMENT

Particular attention was given to patient comfort, and maintaining the wards in an attractive state. A great deal of work was involved in planning the furnishings of the new administration-reception building.

FIRE PROTECTION

There were no fires of consequence. The Fire Department was maintained at a high degree of efficiency, both as to personnel and equipment.

The Fire Chief resigned because of illness, and a new appointment was made.

Fire drills were held regularly by the Fire Brigade, and by patients under Nursing Staff direction.

All hospital buildings were inspected monthly for fire hazards.

NEW BUILDINGS AND EQUIPMENT

The construction of a new administration-reception building, with connecting tunnel and corridor was completed, but not occupied by the

end of the year. Arrangements were made for the purchase of furniture and equipment.

BUSINESS OFFICE

The staff of this department carried out the varied duties with efficiency. The difficulties encountered the previous year with the introduction of the data processing system of bookkeeping were largely overcome. The Business Manager continued to be directly responsible for the supervision of the ancillary departments, all of which gave satisfactory service.

There was a reorganization of the residual farm staff, and the garden staff. One group was assigned essentially to vegetable production, and the other to the care of the grounds and landscaping.

THE DEPARTMENT OF PUBLIC WORKS

Maintenance Department

All necessary repairs and maintenance in regard to buildings and mechanical equipment were given proper attention.

A great deal of interior painting was done in the buildings and corridors.

Five cottages on the grounds were essentially re-built, and decorated throughout.

A number of minor structural changes were effected.

Mechanical Branch

There was an appropriate supply of heat, power and water. There was no interruption in the sewage disposal.

A condenser was installed in the power plant to utilize exhaust steam and ensure a safer supply of water for the boilers.

CONCLUSION

In 1963, the hospital had the greatest intake of patients and the highest turnover in its history. There was some indication of a changing pattern in diagnostic categories. The increase in those considered psychotic was moderate, and probably in keeping with the population rise. With those generally classified as not psychotic, the situation was different, and the sharp upward trend among the neurotics, sociopaths and alcoholics was of possible significance.

It can be said the treatment program, in keeping with current psychiatric practice was successful. It was obvious, however, there were still areas where knowledge was incomplete, and further light was necessary in understanding the methods of therapy.

The staff members responsible for the administration of the hospital are most grateful for the encouragement, help and guidance given by the Minister of Health, the Deputy Minister, the Director of the Division of Mental Health, and those in executive positions in the Department of Public Health.

TABLE 1
PROVINCIAL MENTAL HOSPITAL, PONOKA, ALBERTA
MOVEMENT OF PATIENT POPULATION DURING THE YEAR 1963

	M			F			T		
Patients on the books December 31, 1962	740			470			1210		
ADMISSIONS:	M			F			T		
First Admissions:									
Voluntary	141	97	238						
Certificates	72	98	170						
Warrant	158	76	234						
M.D. Act	1	---	1						
				372	271	643			
Re-admissions:									
Voluntary	159	134	293						
Certificates	25	35	60						
Warrant	99	64	163						
				283	233	516			
Transfers in:				3	4	7			
							658	508	1166
							1398	978	2376
SEPARATIONS:									
Discharges:									
As recovered	98	93	191						
As much improved	127	157	284						
As improved	112	111	223						
As unchanged	19	11	30						
As Not Psychotic	225	76	301						
				581	448	1029			
Deaths				51	30	81			
Transfers out				49	57	106			
							681	535	1216
On the books December 31st, 1963							717	443	1160
On Leave or otherwise absent							48	50	98
In residence December 31st, 1963							669	393	1062

TABLE 2
PROVINCIAL MENTAL HOSPITAL, PONOKA, ALBERTA
PATIENT POPULATION BY PSYCHOSES—December 31st, 1963

CLASSIFICATION:	Male	Female	Total
Syphilis with Psychosis	23	---	23
Schizophrenia	373	189	562
Manic Depressive	31	25	56
Involuntional Melancholia	8	9	17
Paranoia and Paranoid States	47	35	82
Senile Psychosis	10	30	40
Pre-senile Psychosis	2	8	10
With Cerebral Arteriosclerosis	29	24	53
Alcoholic Psychosis	17	6	23
Other and Unspecified Psychoses	58	31	89
Anxiety Reaction	4	2	6
Hysterical Reaction	1	1	2
Neurotic Depressive Reaction	4	9	13
Other Psychoneurotic Reactions	1	4	5
Pathological Personality	10	6	16
Immature Personality	2	2	4
Alcoholism	20	1	21
Mental Deficiency	11	4	15
Epilepsy	5	1	6
Other and Unspecified	1	2	3
Mental observation without need for further care	6	3	9
Other conditions (Not Psychotic)	6	1	7
TOTALS	669	393	1062

TABLE 3
PROVINCIAL MENTAL HOSPITAL, PONOKA, ALBERTA
FIRST ADMISSIONS DURING 1963 BY PSYCHOSES

CLASSIFICATION:	Male	Female	Total
Schizophrenia	65	60	125
Manic Depressive	9	4	13
Involuntional Melancholia	15	14	29
Paranoia and Paranoid States	8	8	16
Senile Psychosis	16	26	42
Pre-Senile Psychosis	3	1	4
With Cerebral Arteriosclerosis	45	16	61
Alcoholic Psychosis	11	4	15
Other and Unspecified Psychoses	12	21	33
Anxiety Reaction	11	4	15
Hysterical Reaction	4	4	8
Neurotic Depressive Reaction	24	37	61
Other Psychoneurotic Reactions	5	19	24
Pathological Personality	33	17	50
Immature Personality	11	12	23
Alcoholism	81	5	86
Childhood Behaviour Disorders	1	....	1
Mental Deficiency	3	2	5
Other and Unspecified	1	3	4
Epilepsy	2	3	5
Mental Observation without need for further care	9	11	20
Other conditions (Not Psychotic)	3	....	3
TOTALS	372	271	643

TABLE 4
PROVINCIAL MENTAL HOSPITAL, PONOKA, ALBERTA
AGES OF FIRST ADMISSIONS DURING 1963

Age	Male	Female	Total
Under 15 years	2	....	2
15 to 19 years	27	23	50
20 to 24 years	28	34	62
25 to 29 years	43	30	73
30 to 34 years	40	26	66
35 to 39 years	47	22	69
40 to 44 years	35	26	61
45 to 49 years	28	16	44
50 to 54 years	22	21	43
55 to 59 years	14	13	27
60 to 64 years	15	7	22
65 to 69 years	9	10	19
70 to 79 years	30	24	54
80 years and over	32	19	51
TOTALS	372	271	643

TABLE 5
PROVINCIAL MENTAL HOSPITAL, PONOKA, ALBERTA
DISCHARGES BY PSYCHOSES AND CONDITION ON DISCHARGE

CLASSIFICATION	Recovered		Much Improved		Improved		Unch. & Not Psy.		Totals		
	M	F	M	F	M	F	M	F	M	F	T
Schizophrenia	42	38	58	69	47	42	5	2	152	151	303
Manic Depressive	11	8	12	12	7	8	....	1	30	29	59
Involuntional Psychosis	4	7	15	18	6	9	1	1	26	35	61
Paranoia and Paranoid States .....	....	....	7	8	11	4	....	1	18	13	31
Senile Psychosis .....	....	....	....	1	2	1	2	1	4	3	7
Pre-senile Psychosis .....	....	....	....	1	....	....	....	1	....	1	1
With Cerebral Arteriosclerosis .....	....	....	4	1	3	....	....	1	7	2	9
Alcoholic Psychosis	17	4	1	....	1	2	2	....	21	6	27
Other and Unspecified Psychoses	6	5	4	11	8	4	1	....	19	20	39
Anxiety Reaction	6	1	9	1	8	5	3	....	26	7	33
Hysterical Reaction	1	2	1	3	....	....	1	1	3	6	9
Neurotic Depressive Reaction	10	24	13	17	11	18	2	2	36	61	97
Other Psychoneurotic Reactions	1	4	3	16	7	18	2	1	13	39	52
Pathological Personality .....	....	....	....	....	....	....	60	18	60	18	78
Immature Personality .....	....	....	....	....	....	....	14	14	14	14	28
Alcoholism .....	....	....	....	....	....	....	126	9	126	9	135
Drug Addiction .....	....	....	....	....	....	....	2	2	2	2	4
Childhood Behaviour Disorders .....	....	....	....	....	....	....	2	....	2	....	2
Mental Deficiency .....	....	....	....	....	....	....	6	4	6	4	10
Epilepsy .....	....	....	....	....	....	....	4	7	4	7	11
Other and Unspecified .....	....	....	....	....	....	....	....	5	....	5	5
Mental observation without need for further medical care .....	....	....	....	....	....	....	10	16	10	16	26
Other conditions (Not Psychotic) .....	....	....	....	....	....	....	1	1	1	1	2
TOTALS	98	93	127	157	112	111	244	87	581	448	1029

TABLE 6
PROVINCIAL MENTAL HOSPITAL—PONOKA, ALBERTA
DISCHARGES BY PSYCHOSES AND DURATION OF RESIDENCE

CLASSIFICATION	Under 3 months		Under 6 months		Under 1 year		Over 1 year		Totals		
	M	F	M	F	M	F	M	F	M	F	T
Schizophrenia	87	92	37	31	8	13	20	15	152	151	303
Manic Depressive	26	19	3	6	1	2	.....	2	30	29	59
Involuntal Psychosis	24	25	2	8	.....	1	.....	1	26	35	61
Paranoia and Paranoid States	12	6	1	4	3	1	2	2	18	13	31
Senile Psychosis	4	2	.....	.....	.....	1	.....	.....	4	3	7
Pre-senile Psychosis	1	.....	.....	.....	.....	.....	.....	.....	1	.....	1
With Cerebral Arteriosclerosis	4	.....	2	1	1	.....	.....	1	7	2	9
Alcoholic Psychosis	19	3	2	3	.....	.....	.....	.....	21	6	27
Other and Unspecified Psychoses	12	14	5	2	2	1	.....	3	19	20	39
Anxiety Reactions	22	4	3	2	1	1	.....	.....	26	7	33
Hysterical Reaction	3	6	.....	.....	.....	.....	.....	.....	3	6	9
Neurotic Depressive Reaction	33	52	2	4	1	2	.....	3	36	61	97
Other Psychoneurotic Reactions	11	33	2	6	.....	.....	.....	.....	13	39	52
Pathological Personality	48	14	9	3	1	1	2	.....	60	18	78
Immature Personality	13	9	1	4	.....	1	.....	.....	14	14	28
Alcoholism	120	9	5	.....	1	.....	.....	.....	126	9	135
Drug Addiction	1	2	1	.....	.....	.....	.....	.....	2	2	4
Childhood Behaviour Disorders .....	.....	.....	1	.....	.....	.....	1	.....	2	.....	2
Mental Deficiency	1	4	2	.....	2	.....	1	.....	6	4	10
Epilepsy	1	5	1	1	1	1	1	.....	4	7	11
Other and Unspecified .....	.....	3	.....	1	.....	1	.....	.....	.....	5	5
Mental observation without need for further medical care	10	15	.....	1	.....	.....	.....	.....	10	16	26
Other conditions (Not Psychotic)	1	1	.....	.....	.....	.....	.....	.....	1	1	2
TOTALS	453	318	79	77	22	26	27	27	581	448	1029

TABLE 7
PROVINCIAL MENTAL HOSPITAL, PONOKA, ALBERTA
CAUSES OF DEATH DURING 1963
ABRIDGED INTERNATIONAL CLASSIFICATION

CLASSIFICATION	Male	Female	Total
Malignant Neoplasms	4	1	5
Vascular Lesions affecting C.N.S.	5	2	7
Arteriosclerotic and degenerative Heart Disease	7	8	15
Other Diseases of the Heart	2	5	7
Hypertension without mention of Heart	1	.....	1
Pneumonia	24	9	33
Bronchitis .....	.....	1	1
Nephritis and Nephrosis .....	.....	1	1
Senility without mention of Psychosis	3	1	4
All other Diseases	4	2	6
Suicide	1	.....	1
TOTALS	51	30	81

TABLE 8
DEATHS BY PSYCHOSES

	Male	Female	Total
Syphilis of C.N.S.	4	.....	4
Schizophrenia	5	2	7
Involuntal Psychosis	1	2	3
Paranoia and Paranoid States	2	1	3
Senile Psychosis	14	13	27
Pre-senile Psychosis	2	2	4
With Cerebral Arteriosclerosis	15	8	23
Alcoholic Psychosis	1	.....	1
Other and Unspecified Psychoses	4	2	6
Neurotic Depressive Reaction	1	.....	1
Alcoholism	1	.....	1
Mental Deficiency	1	.....	1
TOTALS	51	30	81

THE PROVINCIAL MENTAL INSTITUTE, EDMONTON
A. D. MacPherson, M.D., R.C.P.S.(C.), Medical Superintendent

PATIENT POPULATION CHANGES

On December 31, 1962, there were in residence 945 men and 496 women patients, a total of 1,441. The number in residence December 31, 1963 was 979 men and 462 women, a total of 1,441. However,

there were 134 patients on leave or otherwise absent, compared to 130 on leave or otherwise absent in 1962. The total patient population in residence, and on leave or otherwise absent, on December 31, 1963 was 1,575. This was an increase of four over the previous year.

ADMISSION OF PATIENTS

During the year, 868 men and 659 women were admitted, for a total of 1,527. In addition, 13 men and three women were transferred from different Mental Institutions in the Province, making a total of 881 men and 662 women admitted. A combined total of 1,543 was admitted during the year. This was an increase of 130 from the previous year. Admissions by Voluntary Application were 719, by Medical Certificates 427, by Warrant 378 and under the Mental Defectives Act there were three.

SEPARATION OF PATIENTS

During the year, 707 men and 538 women, a total of 1,245 was discharged. This was an increase of 68 over the previous year. In addition, 58 men and 104 women, a total of 162 was transferred to other Mental Institutions. There were 132 deaths during the year, at least 113 being associated with degenerative changes due to old age. There were 60 autopsies performed. The total number of separations during the year was 1,539. During the year, more than 3,700 patients were out on leave for periods longer than 24 hours.

GENERAL HEALTH

This was good during the year. There were no epidemics. T.A.B.T. Immunization was carried out on all admissions and new staff. Chest X-rays were done on all new staff, plus a complete re-survey of all patients and staff.

CLINICAL WORK

The Clinical Work during 1963 was very heavy because of the high admission rate. All acceptable forms of treatment were in use. Tranquilizers and anti-depressant drugs were used extensively. All new preparations of the above group were given control trials. Emphasis was placed on Group Psychotherapy and Individual Psychotherapy. The Electro-Convulsive Therapy continued to be used on disturbed and depressed patients.

Emphasis was placed on finding employment, in Edmonton, for patients, allowing them to go to work during the day and spend the night at the hospital. This worked out very well.

Occupational Therapy continued to expand.

In addition to taking care of the psychiatric problems of the patients, the Medical Staff continued to provide treatment for the patients' physical illnesses. Specialists were called in from Edmonton as as needed, particularly from the University Hospital.

Special mention must be made of the tuberculosis work. All patients infected with tuberculosis from the Division of Mental Health were treated at this hospital. The anti-tuberculosis work was very successful. In addition, patients on sentence under The Tuberculosis

Act were admitted. These were patients who were a source of infection and who refused adequate treatment. Several were admitted in this way.

Continued use was made of the Cancer Clinic for diagnosis and treatment. A number of patients were transferred from the Provincial Mental Hospital, Ponoka, Rosehaven, Camrose, and Deerhome, Red Deer, for attendance at the Cancer Clinic and for continued treatment.

Rehabilitation continued to be handled quite easily. Actually it never has been a problem here. Very extensive help was given by the various agencies in Edmonton that were operating in this field.

The Open-Door Policy remained active at a high level. In addition, a very high percentage of patients had out-door privileges and moved freely about the grounds.

The Out-Patient Service continued at its customary high level. It appeared to be the impression that the Out-Patient Service was very limited. Actually, the Out-Patient Service was very extensive. A complete record was not kept by all the Medical Staff, but approximately two-thirds of the Medical Staff had over 4,000 out-patient interviews during 1963. This was an excellent service and it has been working well for some years. It dealt with a very considerable number of patients. It involved a large amount of extra work for the Medical Staff, but was considered justifiable. The above figure does not include those seen by the social workers.

Another program which was not really emphasized in the past was the treatment of alcoholics. The Institute worked in close co-operation with the Alcoholic Foundation and Alcoholics Anonymous. The Alcoholic Foundation Program was followed quite closely. Referrals were made, mostly, by the Alcoholic Foundation and the Alcoholics Anonymous, but patients also came from other sources. The treatment program was largely concentrated on two wards. Discharged patients were referred back to the referring organization. The program consisted of Group Psychotherapy, Recreational and Occupational Therapy, and of course, the necessary physical treatment in the case of those who were acutely disturbed or ill. In addition to working with the patients, themselves, the family was brought into the program through the assistance of Al' Anon. The total number of alcoholics admitted was over 200.

OCCUPATIONAL THERAPY

As mentioned previously, Occupational Therapy played a very important part in the treatment program. One extra well-qualified Occupational Therapist joined the staff during the year. Therapy was carried out on all the wards as well as in the centre. Teas and exhibitions of the work were put on for the public at intervals during the year. Also, arrangements were made through the courtesy of the Museum of Arts to obtain loans of pictures. These were hung in the Occupational Therapy Building. This was very much appreciated.

SOCIAL SERVICES

The work of this department continued to increase. An extra, well-qualified social worker was added to the staff. The work of this department was very widespread. It included the investigation of family backgrounds, interviewing relatives, rehabilitation of discharged patients,

and public relations. There were 3,650 interviews carried out during the year.

In addition, the program for the use of foster homes was greatly expanded with the assistance of the Department of Public Welfare and the City Welfare Department. The patients were released to the care of foster homes where Welfare support was provided and the Social Service Department carried out the follow-up program. Some of these patients were able to work either full or part-time and some were not. By the end of 1963 this increased program was in the developing stage. It is expected that it will be working on a significant scale in 1964.

PSYCHOLOGIST

As far as possible, all new patients and especially all remand cases, were given a battery of psychological tests. This work was invaluable in planning the treatment program. In addition, the psychologist carried on a group therapy program. He also gave courses to the psychiatric and affiliation nursing students. The Psychologist was very active in public relations. He took part in seminars, and gave lectures and talks to various interested organizations in Edmonton.

RECREATIONAL PROGRAM

The full-time program was continued. This covered all wards and forms of recreational activity. The D.V.A. continued to assist in providing shows, tickets to football and hockey games, etc. During the year, seasonal sports were followed extensively with a large number of patients taking part. The Recreational Program was very comprehensive and successful. In the Fall, a very much appreciated and impressive gift of four sets of curling rocks was made by the Canadian Legion.

RELIGIOUS SERVICES

The Lutheran Minister continued to be very helpful. He held services every Sunday and brought out visiting groups. The Roman Catholic services were held every Sunday. Anglican and United Church services were held alternating Sundays. The Jewish and Ukranian women's organizations visited regularly and provided religious services during their visits.

LIBRARY

This Department remained very active during the year. It was open daily. During the year the patients were fortunate in receiving a very large number of donations of magazines for the library. The D.V.A. donated a large number of books during the year.

BEAUTY PARLOR

This Department remained very active. The number of patients receiving treatment here continued to increase constantly.

DENTAL SERVICES

All patients were examined regularly during the year and, where required, treatment was carried out. All new admissions were also examined and treated. Various types of treatments carried out amounted to 3,092. In addition, the dentist supplied services to Rosehaven, Camrose, and held clinics for students of the University of Alberta.

X-RAY SERVICES

During the year 6,017 examinations were done. In addition, B.C.G. vaccinations, and tuberculin tests of new staff and patients were done by this Department. They also assisted in the training program of X-ray technicians carried out by the Department of Health.

LABORATORY SERVICES

During the year, over 21,659 examinations were done. This was an increase over the previous year. This Department also assisted in the training program given to technicians from the school operated by the Department of Health. In addition, follow-up laboratory work was done at intervals on a total of 374 out-patients.

SURGICAL SERVICES

During the year there were 72 major operations, 52 minor operations, three deliveries, 54 other procedures, and eight applications of casts. Some of the surgical work was done by the Institute's staff and on other occasions consultants were called in. The results were excellent.

ELECTROENCEPHALOGRAPH

Over 537 E.E.G.'s were done during the past year at this hospital, plus 153 E.C.G.'s and 26 B.M.R.'s. In addition, 180 E.E.G.'s were done at the Provincial Mental Hospital at Ponoka. It is quite obvious that this department was very active during the year.

EUGENICS BOARD

The Eugenics Board held four meetings at this hospital during the year. A total of 48 cases was presented to the Board. Eighteen of these were from the Provincial Guidance Clinic, Edmonton. A total of 35 operations was performed.

SCHOOL OF NURSING

During the past year discussion and planning regarding changes occurring in the pattern of nursing education and services continued. This was in line with the thinking throughout the Country. This involved a lot of the time of Senior Administrative Nursing Personnel.

During the year, nine women and eight men, a total of 17 students, completed the three-year course in Psychiatric Nursing. At the end of the year, there were 81 students, divided as follows: 31 first-year students, 17 second-year students, and 33 third-year students. The affiliation program for student nurses from general hospitals was continued. A total of 240 students (plus five deferred students) were given an eight-week course in Psychiatric Nursing throughout the year. The average number of students in attendance on each course was 40. These affiliation students came from the Edmonton General Hospital, Misericordia Hospital, Edmonton, Royal Alexandra Hospital, Edmonton, St. Joseph's General Hospital, Vegreville, and the Archer Memorial Hospital, Lamont. In addition, 13 graduate nurses enrolled in the Diploma Course in Public Health Nursing at the University of Alberta, spent two weeks at the Provincial Mental Institute, Edmonton, for field experience.

In-service training, consisting of ward teaching and lectures, was continued for all staff.

NURSING SERVICE

The Nursing Service operated very efficiently during the year. The program of team nursing was expanded to include all the female and some of the male wards. The senior ward staff assisted with and carried on group therapy programs. Remotivation work was carried on in all wards. In-service education was continued throughout the year.

FIRE PROTECTION

Regular fire practices were held throughout the year. Instructions were given throughout the hospital to all new staff. The fire equipment was inspected and was kept at a peak of efficiency. No fires occurred during the year.

HOUSEKEEPING

This department continued to function efficiently. The wards were kept comfortable and attractive.

LAUNDRY

The laundry was very busy, due to the very heavy patient load. The work was done very efficiently. A total of 1,970,000 pounds of laundry was done.

TAILOR AND SEWING SHOP

Both departments were very busy. Work consisted mostly of repairs and was very well done, which resulted in a very considerable saving of the clothing.

SHOE REPAIRS

This department was very active and very busy. Excellent work was done.

DIETARY DEPARTMENT

The Dietary Department continued to function very well. In addition to the large number of ordinary meals to staff, an average daily population amounting to around 2,000, there was also a large number of special diets required.

POLICE COURT

This service continued to be very busy. A large number of cases were sent out on remand. A number of the Medical Staff appeared in Court on numerous occasions in connection with this work. Although this service involved a considerable amount of work, it was felt this particular service was justified. There was a total of 214 remands during the year. This was an increase of 73 from the previous year.

BUSINESS OFFICE

This department was very active. The work continued to expand. Further up-to-date equipment was added. The work of this department was very heavy during the past year due to the many changes involved in the Classification Program.

MEDICAL RECORDS

With the large number of admissions and discharges the work of this department was greatly increased and was carried out very efficiently.

HOSPITAL FARM

The farm operations were discontinued during the year. This was a matter of great regret.

GARDENS AND GROUNDS

The garden crop was very good and the yield was high. The quality of vegetables was also very good. The production was sufficient to supply the hospital needs throughout the year and there was a vegetable surplus.

STAFF

The staff situation, both male and female, remained satisfactory. There was very little difficulty keeping the establishment filled, except that there continued to be a marked shortage of graduate nurses.

VISITING AND VOLUNTEER PROGRAMS

During the year, the Canadian Mental Health Association continued to develop its visiting program and to assist in other activities, such as the White Cross Centre, the Christmas Bazaar, and the Fashion Show, etc. The United Church Program continued to expand. The Lutheran Women's Auxiliary, the Ukrainian Ladies, the Jewish Ladies, and the Chinese Benevolent Association all visited at regular intervals. These visiting programs included all wards and came at regular and frequent intervals. In addition, the Mormon Church had a visiting program during the year. The Nursing Administration instituted a program of orientation seminars for the visitors. These seminars were well received and it was felt that they were very helpful. In addition to the above regular visitors, various community organizations visited and/or supplied recreational programs. On the average, during the past year, there were 32 visiting groups per month. (This gives some idea of the extent of the visiting program.) Some of these groups brought lunches for the patients, and other times the patients, themselves, prepared lunches, through the ward cooking program, for the visitors. The Canadian Mental Health Association held a Christmas Bazaar during the Christmas Season. It supplied gifts for patients to send to their families and relatives. The attendance at the bazaar was over 600 patients. The Canadian Mental Health Association also put on a Fashion Show: the volunteers acted as the directors and the patients formed the cast. These shows were put on for the public. During the year, members of the volunteer groups carried out a program of taking groups of patients out to visit various homes throughout the City. This was done two to three times a month.

During the Christmas and New Year's Season, Leave of Absence, for 48 hours or longer, was given to over 400 patients to visit their homes and relatives. In addition, 375 patients were taken on sight-seeing tours of the Christmas decorations throughout the City.

The Summer Camp Program of the Canadian Mental Health Association was very successful. This camp was held during the months of

July and August. Four groups, a total of 80 patients, attended camp during this time for a period of one week for each group. In addition, visiting parties, for one day, were arranged during each of the four camp periods. Approximately 300 patients made these one-day visits.

VISITORS

The Visiting Board carried out its annual inspection. Miss Jean Dorgan, of the Federal Division of Mental Health, spent a day visiting the facilities. The Honorable Dr. J. Donovan Ross, Minister of Health visited regularly, as well as Dr. Randall R. MacLean, Director of the Division of Mental Health.

PUBLIC WORKS

Maintenance Department: The buildings were well maintained. All repairs and minor alterations were carried out efficiently when required. The renovation of the No. 3 Building was completed during the year. New furnishings were not obtained. It was expected that the building would be occupied early in 1964.

Mechanical Branch: The operation of this branch was very efficient during the year.

PUBLIC RELATIONS

Members of the staff continued to address public organizations whenever possible, on the work of the hospital and problems in the psychiatric field.

ADMISSION PROCEDURES

A radical change in the admission procedures, under The Mental Diseases Act, was made during the year. The Attorney General's Department arranged for magistrates to come from Edmonton and hold hearings at the hospital in cases where the patient was charged under The Mental Diseases Act and a Warrant issued. These cases were heard at the Institute, and the patient either committed or dismissed, according to the evidence, or they were remanded for further investigation. The patients were generally picked up on a Warrant to Apprehend following a complaint laid by a friend or relative. The patients were brought to this hospital, held, if necessary, overnight until they were brought before a Magistrate for a hearing. This eliminated patients, charged under The Mental Diseases Act, appearing in the Police Courts in the City. This procedure applied to all Northern Alberta areas also. This procedure did not apply where the patient was arrested on a criminal charge. The change in the admission procedure entailed a considerable increase in the work of the Medical Staff. Court was held on the average of three to four times a week during the last six months of the year. However, it did mean that patients no longer appeared in the Police Courts in the City.

CONCLUSION

The admissions during this year reached an all-time high. For some time now admission records have been broken every year. There is nothing to indicate that this high rate of admission will not continue, at least for a while. In addition to the regular admissions, 75 people were admitted under Warrant to Apprehend.

Community interest and participation in the hospital activities, as mentioned previously, was on the increase and was most helpful.

In conclusion, we would like to express appreciation to the Honorable Dr. J. Donovan Ross, and Dr. Randall R. MacLean, for their sympathetic understanding and help.

TABLE 1
MOVEMENT OF PATIENT POPULATION DURING 1963

	M	F	T	M	F	T
Total on books December 31, 1962				1000	571	1571
On Leave or otherwise absent				55	75	130
Total in residence December 31, 1962				945	496	1441
ADMISSIONS:						
First Admissions:						
(a) Voluntary	175	112	287			
(b) Medical Certificates	141	167	308			
(c) Warrants	161	42	203			
(d) Mental Defectives Act	1	1	2			
TOTAL	478	322	800			
Readmissions:						
(a) Voluntary	229	203	432			
(b) Medical Certificates	42	77	119			
(c) Warrants	118	57	175			
(d) Mental Defectives Act	1	....	1			
TOTAL	390	337	727			
Transfers In:	13	3	16			
TOTAL ADMISSIONS	881	662	1543			
SEPARATIONS:						
Discharges	707	538	1245			
Transfers	58	104	162			
Deaths	74	58	132			
TOTAL SEPARATIONS	839	700	1539			
Total on books December 31, 1963				1042	533	1575
On Leave or otherwise absent				63	71	134
Total in residence December 31, 1963				979	462	1441

TABLE 2
PSYCHOSES OF THE PATIENT POPULATION, DECEMBER 31, 1963

	Male	Female	Total
Schizophrenic Disorders	601	247	848
Manic Depressive Reaction	33	41	74
Involuntional Melancholia	10	30	40
Paranoia and Paranoid States	24	12	36
Senile Psychosis	68	27	95
Pre-senile Psychosis	6	5	11
Psychosis with Cerebral Arteriosclerosis	60	31	91
Alcoholic Psychosis	14	5	19
Psychosis of other Demonstrable Etiology	36	10	46
Other and Unspecified Psychoses	40	13	53
Anxiety Reaction without Mention of Somatic Symptoms	5	6	11
Hysterical Reaction without Mention of Anxiety Reaction .....	....	8	8
Obsessive-Compulsive Reaction	1	....	1
Neurotic-Depressive Reaction	8	25	33
Psychoneurotic Disorders, Other, Mixed and Unspecified Types	1	24	25
Pathological Personality	33	8	41
Immature Personality	3	5	8
Alcoholism	45	3	48
Primary Childhood Behaviour Problem	5	9	14
Mental Deficiency	25	8	33
Other and Unspecified Character, Behaviour and			
Intelligence Disorders	4	1	5
Juvenile Neurosyphilis	1	....	1
General Paralysis of Insane	3	3	6
Other Syphilis of Central Nervous System	2	....	2
Late Effects of Acute Infectious Encephalitis .....	....	1	1
Epilepsy	8	11	19
Depression	1	....	1
Observation without Need of Further Medical			
(Psychiatric) Care	5	....	5
TOTAL	1042	533	1575

TABLE 3
PSYCHOSES BY FIRST ADMISSION—1963

	Male	Female	Total
Schizophrenic Disorders	58	53	111
Manic Depressive Reaction	14	7	21
Involuntional Melancholia	9	19	28
Paranoia and Paranoid States	8	3	11
Senile Psychosis	54	49	103
Pre-senile Psychosis	10	...	10
Psychosis with Cerebral Arteriosclerosis	42	49	91
Alcoholic Psychosis	11	2	13
Psychosis with Other Demonstrable Etiology	8	7	15
Other and Unspecified Psychoses	8	2	10
Anxiety Reaction without mention of Somatic Symptoms	3	2	5
Hysterical Reaction without mention of Anxiety Reaction	1	4	5
Obsessive-Compulsive Reaction	1	...	1
Neurotic Depressive Reaction	22	27	49
Psychoneurotic Disorders, Others, Mixed and			
Unspecified Types	7	8	15
Pathological Personality	50	10	60
Immature Personality	6	10	16
Alcoholism	105	19	124
Other Drug Addiction	1	...	1
Primary Childhood Behaviour Problems	8	9	17
Mental Deficiency	15	19	34
Other and Unspecified Character Behaviour and			
Intelligence Disorders	7	6	13
Epilepsy	2	4	6
Puerperal Psychosis .....	...	5	5
Observation without need of further Medical			
(Psychiatric) Care	26	8	34
Huntington's Chorea	1	...	1
Depression	1	...	1
TOTAL	478	322	800

TABLE 4
AGES OF PATIENTS ADMITTED DURING 1963

Ages	First Admission			Readmissions			Transfers			Total		
	M	F	T	M	F	T	M	F	T	M	F	T
Under 15 years	5	6	11	3	...	3	...	...	...	8	6	14
15 to 19 years	35	35	70	22	20	42	...	...	...	57	55	112
20 to 24 years	47	35	82	29	40	69	...	...	...	76	75	151
25 to 29 years	41	24	65	46	34	80	2	...	2	89	58	147
30 to 34 years	56	35	91	60	47	107	1	1	2	117	83	200
35 to 39 years	55	26	81	58	52	110	2	...	2	115	78	193
40 to 44 years	45	27	72	52	40	92	...	...	...	97	67	164
45 to 49 years	35	15	50	32	37	69	3	...	3	70	52	122
50 to 54 years	24	5	29	39	24	63	...	...	...	63	29	92
55 to 59 years	12	7	19	22	13	35	1	...	1	35	20	55
60 to 64 years	20	6	26	11	16	27	1	...	1	32	22	54
65 to 69 years	16	17	33	7	5	12	1	1	2	24	23	47
70 and over	87	84	171	9	9	18	2	1	3	98	94	192
TOTAL	478	322	800	390	337	727	13	3	16	881	662	1543

TABLE 5—DISCHARGES CLASSIFIED WITH REFERENCE TO PRINCIPAL PSYCHOSES AND CONDITIONS FOR 1963

PSYCHOSES	Recovered			Improved			Much Improved			Unimproved			Unchanged			Total		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Schizophrenic Disorders	173	176	349	5	1	6	8	12	20	...	...	...	...	...	...	186	189	375
Manic Depressive Reaction	25	36	61	...	...	...	...	...	...	...	...	...	...	...	...	25	36	61
Involutional Melancholia	17	41	58	...	...	...	...	...	...	...	...	...	...	...	...	17	41	58
Paranoia and Paranoid States	4	4	8	1	5	9	1	1	2	...	...	...	...	...	...	6	5	11
Senile Psychosis	...	...	...	4	1	5	...	...	...	...	...	...	...	...	...	4	1	5
Pre-senile Psychosis	...	...	...	5	6	11	4	4	8	...	...	...	...	...	...	9	11	20
Psychosis with Cerebral Arteriosclerosis	13	4	17	...	...	...	1	...	1	...	...	...	...	...	...	14	14	18
Alcoholic Psychosis	6	9	15	...	1	1	5	4	9	...	...	...	...	...	...	11	14	25
Psychosis of Other Demonstrable Etiology	7	6	13	1	...	1	...	1	1	...	...	...	...	...	...	7	9	16
Other and Unspecified Psychoses	6	3	9	...	...	...	...	...	...	...	...	...	...	...	...	6	3	9
Anxiety Reaction	2	10	12	...	...	...	...	...	...	...	...	...	...	...	...	2	10	12
Hysterical Reaction	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Obsessive-Compulsive Reaction	30	38	68	...	...	...	1	...	1	...	...	...	...	...	...	1	...	1
Neurotic-Depressive Reaction	13	14	27	...	1	1	...	...	...	...	...	...	...	...	...	30	38	68
Psychoneurotic Disorders, etc.	16	8	24	41	10	51	21	10	31	...	...	...	...	...	...	13	15	28
Pathological Personality	3	5	8	2	8	10	2	2	4	...	...	...	...	...	...	16	5	21
Immature Personality	...	...	...	171	22	193	9	...	9	...	...	...	...	...	...	7	15	22
Alcoholism	7	...	16	1	...	1	...	...	...	...	...	...	...	...	...	187	31	218
Drug Addiction	14	21	35	3	1	4	5	2	7	...	...	...	...	...	...	1	...	1
Primary Childhood Behaviour Disorders	2	2	4	2	2	4	...	...	...	...	...	...	...	...	...	22	24	46
Mental Deficiency	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	20	32
Other and Unspecified Character Behaviour Disorders	8	6	14	...	...	...	...	...	...	...	...	...	...	...	...	8	9	17
Epilepsy	2	2	4	...	2	4	5	3	8	...	...	...	...	...	...	1	9	17
Huntington's Chorea	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1	...	...
Puerperal Psychosis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Psychosis arising from Pregnancy	...	7	7	...	...	...	...	...	...	...	...	...	...	...	...	...	7	7
Observation without Further Medical Care	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
TOTAL	348	402	750	248	60	308	65	43	108	...	1	1	46	32	78	707	538	1245

TABLE 6—DISCHARGES DURING 1963 SHOWING DURATION OF RESIDENCE IN HOSPITAL

PSYCHOSES	Under 3 mths.			Under 6 mths.			Under 9 mths.			Under 12 mths.			Under 18 mths.			Under 2 years			Over 2 years			TOTAL		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
	107	104	211	41	46	87	8	16	24	16	24	40	2	5	7	2	2	4	6	1	7	182	198	380
Schizophrenic Disorders	21	23	44	1	6	7	...	4	4	2	3	5	...	...	...	...	...	...	...	...	...	25	37	62
Manic Depressive Reaction	9	27	36	5	6	11	1	2	3	2	3	5	...	1	1	...	...	...	...	...	...	17	39	56
Involutional Melancholia	4	4	8	1	1	2	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	6	5	11
Paranoia and Paranoid States	3	5	8	2	...	2	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	5	6	11
Senile Psychosis	4	...	4	...	1	1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	4	1	5
Pre-senile Psychosis	5	6	11	2	3	5	...	1	1	2	...	2	...	...	...	...	...	...	...	...	...	9	10	19
Psychosis with Cerebral Arteriosclerosis	11	4	15	...	...	...	...	...	...	1	1	1	...	...	...	...	...	...	...	...	...	14	4	18
Alcoholic Psychosis	4	10	14	4	...	4	4	2	2	3	1	4	...	1	1	2	...	2	...	...	...	11	14	25
Psychosis, Other Demonstrable Etiology	7	4	11	1	2	3	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	9	6	15
Other and Unspecified Psychosis	4	1	5	1	1	2	1	1	1	1	1	...	...	...	...	...	...	...	...	...	...	6	3	9
Anxiety Reaction	1	9	10	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	10	12
Hysterical Reaction	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Obsessive Compulsive Reaction	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	29	37	66
Neurotic Depressive Reaction	22	26	48	6	6	12	...	...	...	...	...	5	5	...	...	1	1	1	...	...	...	13	15	28
Psychoneurotic Disorders, etc.	11	11	22	2	3	5	...	1	1	1	2	3	1	4	...	...	...	...	...	...	...	95	31	126
Pathological Personality	83	24	107	7	6	13	2	...	...	3	1	4	...	...	...	...	...	...	...	...	...	7	16	23
Immature Personality	7	14	21	...	2	2	...	...	...	4	1	5	...	...	...	...	...	...	...	...	...	191	27	218
Alcoholism	182	24	206	5	2	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Other Drug Addiction	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	22	24	46
Primary Childhood Behaviour Disorders	16	21	37	1	3	4	1	...	1	3	...	3	1	1	1	...	...	...	...	...	...	12	21	33
Mental Deficiency	11	19	30	1	1	2	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	8	8	16
Other and Unspecified Disorders	6	5	11	2	2	4	2	2	2	2	1	...	...	...	...	...	...	...	...	...	...	9	8	17
Epilepsy	6	6	12	2	2	4	1	1	1	1	1	...	...	...	...	...	...	...	...	...	...	1	1	1
Psychosis Arising from Pregnancy .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Psychosis .....	...	5	5	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Observation Without Further Medical Care	28	10	38	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	28	10	38
Huntington's Chorea	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
TOTAL	555	362	917	82	96	178	16	29	45	38	40	78	4	7	11	6	3	9	6	1	7	707	538	1245

TABLE 7
DEATHS DURING 1963 BY ABRIDGED INTERNATIONAL STATISTICS
CLASSIFICATION

	Male	Female	Total
Syphilis and its Sequelae	2	....	2
All Other Diseases Classified as Infective and Parasitic .....	....	3	3
Malignant Neoplasms, including Neoplasm of Lymphatic and Haematopoietic Tissues	10	8	18
Diabetes Mellitus	1	....	1
Vascular Lesions Affecting Central Nervous System	7	10	17
Chronic Rheumatic Heart Disease .....	....	1	1
Arteriosclerotic and Degenerative Heart Disease	13	12	25
Other Diseases of the Heart	8	1	9
Influenza .....	....	1	1
Pneumonia	23	17	40
Bronchitis	2	1	3
Nephritis and Nephrosis .....	....	1	1
Senility Without Mention of Psychosis, Ill-defined and Cause Unknown	4	1	5
All Other Diseases	3	2	5
All Other Accidents including Burns	1	....	1
TOTAL	74	58	132

TABLE 8
DEATHS DURING 1963 BY PSYCHOSES

	Male	Female	Total
Schizophrenic Disorders	12	9	21
Manic Depressive Reaction	1	1	2
Senile Psychosis	25	14	39
Pre-senile Psychosis	4	1	5
Psychosis with Cerebral Arteriosclerosis	14	28	42
Alcoholic Psychosis	1	....	1
Psychosis of Other Demonstrable Etiology	4	2	6
Other and Unspecified Psychoses	3	....	3
Neurotic-Depressive Reaction	1	....	1
Alcoholism	2	....	2
Mental Deficiency	1	1	2
Tabes Dorsalis	1	....	1
General Paralysis of Insane	4	2	6
Observation without need for Further Medical (Psychiatric) Care	1	....	1
TOTAL	74	58	132

CHRONIC HOSPITALS

PROVINCIAL AUXILIARY MENTAL HOSPITAL, CLARESHOLM

PROVINCIAL AUXILIARY MENTAL HOSPITAL, RAYMOND ROSEHAVEN, CAMROSE

The patient population of the Provincial Auxiliary Mental Hospital, Claresholm, rose to 196 at the end of the year. Twenty-seven female patients were received by transfer during the year from the Provincial Mental Hospital, Ponoka. Seventy-five female patients were received from the Provincial Mental Institute, Edmonton.

The Provincial Auxiliary Mental Hospital, Raymond, cared for approximately 123 patients.

Rosehaven, Camrose, cared for a mixed population of male and female patients to the number of 510. There was further decline in the general health of the patients as a result of aging processes. One hundred and thirty-nine deaths occurred during the year, which was an increase over the previous year. Sixty-one patients were received by transfer from the Provincial Mental Hospital, Ponoka, and eighty-three patients were received likewise from the Provincial Mental Institute, Edmonton. Certain patients were granted leave-of-absence from time to time. Three patients were discharged during the year.

PROVINCIAL AUXILIARY MENTAL HOSPITAL,
CLARESHOLM

**R. R. MacLean, M.D., Cert. in Neurol. and Psychiatry,
F.A.P.A., Cert. N.H.A. (A.P.A.)**

MOVEMENT OF PATIENTS

There were 107 patients in residence January 1, 1963, and 196 patients in residence December 31, 1963.

Ninety-nine patients were transferred to this hospital from the following hospitals: twenty-seven from the Provincial Mental Hospital, Ponoka, one from Rosehaven, Camrose, one from the Saskatchewan Hospital, Weyburn, sixty-nine from the Provincial Mental Institute, Edmonton, and one returned from the Municipal Hospital.

One patient was admitted by Medical Certificates.

There were seven patients transferred from this hospital to the following hospitals: two to the Provincial Mental Institute, Edmonton, one to the Provincial Mental Hospital, Ponoka, one to the Provincial Auxiliary Mental Hospital, Raymond, and three patients to the Claresholm Municipal Hospital, Claresholm, one for surgery and two for treatment due to fractures.

NEW BUILDINGS

Two of the new units were opened and were occupied by patients. Some areas of these wards were used for Administration, Occupational Therapy, and Beauty Parlour facilities. The staff was augmented and there were fifty-two on ward staff.

The Laundry and Kitchen were put into operation.

ACCIDENTS AND ELOPEMENTS

There were no elopements. Two elderly ladies sustained fractured hips.

GENERAL HEALTH

The general health of the patients was good. There was an increasing number of incontinent patients who required almost total care.

Emergency X-Ray and laboratory tests were done at the Claresholm Municipal Hospital.

Two of the local physicians visited the hospital and their help was greatly appreciated.

OCCUPATIONAL DEPARTMENT

The Occupational Department continued its good work and articles were sold locally throughout the year.

The ward staff showed an increased interest in activities for the patients. One ward organized an excellent program of simple handicrafts, games, and exercises. Many patients responded to this program. During the summer months the patients went out on lawn parties as much as possible. A group of patients went to the garden under supervision.

RECREATIONAL ACTIVITIES

There were several parties held during the year. The patients were encouraged to take part in the programs. Birthday parties were held each month for the patients. Volunteer groups held music appreciation and rhythm band classes. The wards entertained each other.

Organizations from Claresholm and Stavely entertained the patients after their Callow Coach rides during the summer.

The High School students and United Church Choir entertained the patients at Christmas and Easter.

The patients and staff held a very successful tea to thank the representatives from the various organizations who had entertained the ladies during the year. Several groups of visitors were shown through the various departments.

BEAUTY PARLOUR

The patients had their hair done regularly by staff and volunteer workers.

RELIGIOUS SERVICES

Religious services were conducted every Sunday and Roman Catholic Church was held once each month.

DENTISTRY

The Dentist, from the Provincial Mental Hospital, Ponoka, visited the hospital in September and gave the necessary dental care. Emergency dental work was done by the local dentist.

BUILDINGS

The maintenance staff made the necessary repairs to the buildings and equipment.

GARDENS AND GROUNDS

There was a good crop of vegetables except for one field of early vegetables which was flooded out.

STAFF

A Business Manager was appointed and his appointment has been most helpful. An afternoon Supervisor has been on staff for several months and this has been a great advantage.

VISITORS

The Visiting Board visited the hospital in September.

Dr. R. R. MacLean, Director, Division of Mental Health, visited the hospital several times and his help and advice were greatly appreciated.

Relatives and friends visited the patients during the year.

DEPARTMENT OF PUBLIC HEALTH

TABLE 1
MOVEMENT OF PATIENT POPULATION DURING 1963

	M	F	T	M	F	T
In residence January 1, 1963	107	107
On leave or otherwise absent	3	3
ADMISSIONS:						
First Admissions:						
(a) Voluntary
(b) Certificate	1	1	....	1	1
(c) Warrant
(d) M. D. Act
Re-Admissions:						
(a) Voluntary
(b) Certificate
(c) Warrant
(d) M. D. Act
Transfers	99	99	....	99	99
Total Admissions	100	100	....	210	210
SEPARATIONS:						
Discharges:						
(a) As Recovered
(b) As Improved
(c) As Unimproved
Total Discharges
Transfers	7	7	....	7	7
Deaths	4	4	....	4	4
On leave or otherwise absent	11	11
In Residence December 31, 1963	199	199
On leave or otherwise absent	3	3
In Residence December 31, 1963	196	196

TABLE 2
ORIGINAL DIAGNOSES ON ADMISSION TO MENTAL HOSPITAL

	Male	Female	Total
Psychoses with Epidemic Encephalitis	1	1
Psychoses with Cerebral Arteriosclerosis	6	6
Pre-Senile Psychoses	18	18
Psychoneuroses	2	2
Manic Depressive Psychoses	14	14
Dementia Praecox (Schizophrenia)	126	126
Paranoia and Paranoid Conditions	6	6
Psychoses with Mental Deficiency	5	5
Without Psychoses	9	9
Involuntional Psychoses	3	3
Alcoholic Psychoses	2	2
General Paresis	3	3
Tabo-Paresis	1	1
TOTALS	196	196

TABLE 3
CAUSE OF DEATH DURING 1963
ABRIDGED INTERNATIONAL CLASSIFICATION

DISEASE	Male	Female	Total
Arteriosclerotic and Degenerative Heart Disease	3	3
Vascular Diseases of Central Nervous System	1	1
TOTALS	4	4

TABLE 4
CLASSIFICATION OF DEATHS ACCORDING TO ORIGINAL PSYCHIATRIC
DIAGNOSES—1963

DISEASE	Male	Female	Total
Involuntional Melancholia	1	1
Epileptic Psychoses—Deterioration	1	1
Schizophrenia—Paranoid	1	1
Psychosis with Chronic Encephalitis	1	1
TOTALS	4	4

PROVINCIAL AUXILIARY MENTAL HOSPITAL, RAYMOND

**R. R. MacLean, M.D., Cert. in Neuro. and Psychiatry,
F.A.P.A., Cert. M.H.A. (A.P.A.)**

MOVEMENT OF PATIENTS

On January first, 1963 there were 118 patients in residence, two on Leave of Absence to total 120. Through the year there were six first admissions, one re-admission and four received by transfer from other Mental Hospitals. Separations totalled seven, six deaths and one transfer to another Mental Hospital. Thus, on December 31, 1963 there were 120 in residence and four on Leave of Absence to total 124 patients.

ACCIDENTS AND ELOPEMENTS

One patient sustained a Colles' Fracture. There were no elopements.

GENERAL HEALTH

General health of the patients was satisfactory. Since the elderly ladies were kept from the stairways there were no fractures. One patient received major surgery for Cholelithiasis. Three patients received prescription eye glasses. Three patients had their teeth extracted by the local dentist preparatory for dentures which were made when the regular dentist made his annual visit. The clinic of four medical doctors from Raymond and Magrath were on call as was a psychiatrist from Lethbridge.

OCCUPATIONAL THERAPY

The occupational parlor, a bright, sunny room, was used by patients for all kinds of handwork, crocheting, embroidery, etc., as well as for special parties. Tea and cigarettes were served every afternoon and a radio provided material for discussions as well as entertainment. Other patients were steadily employed in the laundry, sewing room, annex and kitchen. Tea and special treats were provided in these departments, the laundry and sewing room having a separate sitting room. A few patients enjoyed helping in the gardens throughout the summer and helped to harvest the vegetables in the fall. Others enjoyed the flower gardens, picking fresh flowers for the wards when needed.

LIBRARY

This was situated in the occupational parlor which was also used as a reading room by some. The books were catalogued, loaned, and received by one patient showing such interest. One new book was purchased each month. The Raymond Library made a sizable donation of back numbers of several pictorial magazines which were thoroughly enjoyed by many. Several patients donated their copies of monthly magazines, as did several of the town's people.

RELIGIOUS SERVICES

Both Catholic and United Church Services were held at the hospital once monthly. On several occasions a choir from Coaldale, Alberta accompanied the United Church Minister. One Sunday a Young People's Group from the Undenominational Church in Lethbridge brought a Song Service which was thoroughly enjoyed. The Priests and Minister gave

freely of their time when requested and presided at patients' funerals when necessary.

RECREATION AND ENTERTAINMENT

The Lethbridge Ladies' Auxiliary to the Federation of Civic Employees again entertained the patients with a Birthday Tea Party every other month, bringing a beautifully decorated cake, cookies, a gift for each and sometimes a musically talented guest who entertained for the afternoon. These parties were a fine incentive for the patients to dress up, and most of them appreciated this acknowledgment of their birthdays. Members of this group also took small groups to their homes for teas, dinners, and dancing. A picture show was shown on the ward once weekly from October first through March, bimonthly, during the spring and fall months. This continued to be the most popular form of entertainment and interested the largest group. The Callow Coach made weekly trips from early spring to late fall. On two occasions the coach took the group to Waterton Lakes Park for a picnic dinner and scenic drive through the park. This was thoroughly enjoyed by the participants. Throughout the year gifts of clothing, jewellery, cosmetics, etc., were donated by the Major Jack Ross Chapter I.O.D.E., Hope Community Club at Warner, Alberta, and on several occasions the local Lions Club brought gifts of fresh spring flowers which had been flown in from the coast. At Christmas time the Raymond Music Club again entertained with a splendid concert and refreshments of oranges, cup cakes and ice cream. Bingo parties and dances were held to celebrate special days through the year with the wards being decorated appropriately. There was a piano, radio and television in the dayroom and annex sitting room.

STAFF CHANGES

One Ward Aide resigned to take a Beauty Course. The Occupational Therapist reached retirement age. Both of these positions were filled satisfactorily. Part-time staff for the summer holidays was satisfactory and adequate.

VISITORS

The Director of the Division of Mental Health made several visits through the year and also accompanied the Provincial Visiting Board on its annual visit of inspection and recommendation. Periodic visits of inspection were made by members of the Departments of Public Health, Public Works, Fire Department and the Electrical and Boiler Inspectors.

GARDENS AND GROUNDS

Drought conditions were prevalent until July. However, a sprinkler irrigation system was purchased which saved the lawns from being burned out as well as saving the young plants put out in the flower beds. The vegetable garden also made astounding growth and besides an abundance for table use through the summer, all available sealers were filled with tomatoes and pickles for winter use. Root vegetables were sufficient for the winter and of superior quality with the exception of carrots which did not receive water early enough. Visitors brought picnic lunches when visiting relatives in the hospital which they enjoyed on the lawns, and many compliments were received on the beauty of the flower beds. Cut flowers were kept in the dayrooms and infirmary all season.

RENOVATION AND CONSTRUCTION

The surgery was enlarged by removing the common wall between two rooms. New cupboards were built, a new sink and taps installed, and the entire room redecorated. A refrigerator was purchased for the storage of antibiotics, etc. The walk-in refrigerator was lined with white, glazed tile, and stainless steel shelving was installed. A cement tunnel was built to house the steam and water pipes from the main building to the annex. All new copper pipe was used which can now be serviced when necessary.

CONCLUSION

The general health of the patients was good throughout the year with a minor outbreak of influenza in the fall which did not cause any deaths. The hospital capacity was lowered to 125 patients which was maintained.

TABLE 1
MOVEMENT OF PATIENT POPULATION DURING 1963

	M	F	T	M	F	T
In Residence January 1, 1963	120	120
ADMISSIONS:						
(a) Voluntary			
(b) Certificates	6	6			
(c) Warrant					
(d) Order					
(e) Transfer	4	4	...	10	10
				...	130	130
RE-ADMISSIONS	1	1	...	131	131
SEPARATIONS:						
(a) As recovered			
(b) As improved			
(c) As unimproved			
(d) Transferred to other hospitals	1	1			
(e) Eloped			
(f) Deported			
(g) As with psychosis			
(h) Deaths	6	6	...	7	7
				...	124	124
In Residence December 31, 1963	124	124

TABLE 2
ORIGINAL DIAGNOSES ON ADMISSION TO MENTAL HOSPITAL

	Male	Female	Total
Schizophrenic Disorders	85	85
Manic Depressive Reactions	9	9
Paranoia and Paranoid States	7	7
Senile Psychosis	4	4
Pre-senile Psychosis	1	1
Psychosis with Cerebral Arteriosclerosis	7	7
Alcoholic Psychosis—Chronic Alcoholic Hallucinations	1	1
Psychosis with other demonstrable Etiology (Epilepsy)	1	1
Psychosis with Psychopathic Personality	2	2
Psychosis with Mental Deficiency	2	2
Not Psychotic—Mental Deficiency	3	3
General Paresis of Insane	2	2
	...	124	124

TABLE 3
CAUSES OF DEATH DURING 1963
ABRIDGED INTERNATIONAL CLASSIFICATION

CLASSIFICATION	Male	Female	Total
Malignant Neoplasm	1	1
Arteriosclerotic and degenerative Heart Disease	2	2
Hypertension without mention of Heart	1	1
Intestinal obstruction and Hernia	1	1
All other Diseases (Thrombosis of Portal Vein)	1	1
TOTALS	6	6

TABLE 4
DEATHS BY ORIGINAL DIAGNOSES

	Male	Female	Total
Schizophrenic Disorders	3	3
Senile Psychosis with Cerebral Arteriosclerosis	2	2
Psychosis with other demonstrable Etiology (Epilepsy)	1	1
TOTALS	6	6

ROSEHAVEN, CAMROSE

**R. R. MacLean, M.D., Cert. in Neurol. and Psychiatry,
F.A.P.A., Cert. M.H.A. (A.P.A.)**

MOVEMENT OF RESIDENTS

On January 1, 1963, the resident population at Rosehaven numbered 499, of which 279 were men and 220 were women. The total number in residence on December 31, 1963, was 501; 285 men and 216 women.

There were 167 residents admitted to Rosehaven during 1963. Of this number, 61 were received from the Provincial Mental Hospital at Ponoka, 83 from the Provincial Mental Institute at Edmonton, two were directly admitted and 21 returned from extended leave of absence.

Separations from Rosehaven during 1963 numbered 165; 139 were attributable to death, three were transferred to other institutions, three were discharged following leave of absence and 20 went on leave of absence.

Admissions throughout the year in the form of transfers from other mental hospitals in Alberta filled beds made available by death or discharge. The average daily population was 505.3.

Deaths were due to degenerative causes. The average age of the resident at death was 81 years.

ACCIDENTS AND ELOPEMENTS

During the year a number of residents received injuries either from accidental falls or as a result of interference from other residents. Some of these resulted in contusions and lacerations of a minor nature and required only first aid treatment. There were 58 accidents which required either medical and surgical attention or X-ray investigation. These included 15 severe contusions, six suturings, 29 fractures and eight X-ray investigations.

GENERAL HEALTH

The general health of the residents was considered good in view of the age group. An increased mental and physical deterioration was noticed in the newly admitted as well as other residents.

An average of 68 residents required bed care each day. During the year 46 residents were admitted to St. Mary's Hospital and spent 292 hospital days for surgical, medical or orthopedic care.

Out patient work done at St. Mary's Hospital for Rosehaven residents consisted of 206 laboratory tests, 56 X-ray pictures and 32 diagnostic tests. Thirty-five specimens were sent to the Provincial Laboratory. All residents were X-rayed by the Tuberculosis Mobile X-ray Unit. Further investigation was done if reports indicated the need.

Medical care was supplied by the Smith Clinic of Camrose.

One visit was made by the dentist from the Provincial Mental Institute, Edmonton, and necessary dental care was given. Emergency dental work was done by a local dentist.

OCCUPATIONAL THERAPY

Occupational therapy classes were operated throughout the year. Groups of men and women from each ward attended twice each week. Articles made were readily sold, being purchased by the residents, staff members or friends. An average of 13 residents worked in institutional services, the laundry and kitchen. The average number of residents employed on wards in light housekeeping tasks was 54.

RELIGIOUS SERVICES

Weekly Protestant Church services were held at Rosehaven and arranged by the local Ministerial Association. The services of a Roman Catholic Priest were available as needed.

RECREATION

Residents were taken out as a lawn group when weather permitted. An average of 82 residents had grounds privileges and were out almost daily. A movie film was shown every other week from October to June with an average attendance of 91. Birthday parties were arranged for a limited number of patients as well as special entertainments at Christmas, Valentine's Day and Easter. Picnic outings were arranged during the summer and included a trip to the Alberta Game Farm. Cards, games, television and radios were available for the use of residents. Several organizations and church groups sponsored car rides, concerts and teas for the residents. Ex-service men were visited regularly by members of the Ladies' Auxiliary to the Royal Canadian Legion. An average interest in the residents was shown by outside groups.

BUILDINGS

The buildings have been well maintained and repairs were done promptly.

GARDEN AND GROUNDS

The garden and grounds were well maintained during the year. The flower beds and lawns were exceptionally beautiful during the summer.

STAFF

The general health of the staff was good. There was a considerable number of staff members who lost time due to lumbar strain or injury. T.A.B. vaccine was given to all staff members and all staff was X-rayed by the Tuberculosis Mobile X-ray Unit. Vacancies arising from resignations were filled although trained personnel was not generally available.

VISITORS

Regular visits were made to Rosehaven by the Director of Mental Health.

The annual visit was made by the Visiting Board.

DEPARTMENT OF PUBLIC HEALTH

TABLE 1
MOVEMENT OF POPULATION DURING 1963

	M	F	T	M	F	T
In Residence December 31, 1962				279	220	499
ADMISSIONS:						
From P.M.H., Ponoka	38	23	61			
From P.M.I., Edmonton	52	31	83			
Admitted directly .....	...	2	2			
Returned from extended L.O.A.	8	13	21			
	98	69	167	98	69	167
				377	289	666
SEPARATIONS:						
Deaths	83	56	139			
Discharge to P.M.I., Edmonton	2	...	2			
Discharge to Claresholm .....	...	1	1			
Discharge following L.O.A.	2	1	3			
On extended L.O.A.	5	15	20			
In Residence December 31, 1963	92	73	165	92	73	165
				285	216	501

TABLE 2
ORIGINAL DIAGNOSES ON ADMISSION TO MENTAL HOSPITALS

Schizophrenic Disorders	98
Manic Depressive Reaction	25
Involuntal Psychosis	3
Paranoia and Paranoid States	29
Senile Psychosis	170
Psychosis with Arteriosclerosis	131
Alcoholic Psychosis	4
Psychosis of Demonstrable Etiology	6
Other and Unspecified Psychoses	15
Psychoneurotic Disorders	1
Pathological Personality	1
Alcoholism	4
Other Drug Addiction	1
Mental Deficiency	5
General Paralysis of Insane	3
Other Syphilis of Central Nervous System	1
Organic Brain Syndrome	1
Not Psychotic	3
	501

TABLE 3
CAUSES OF DEATH DURING 1963
ABRIDGED INTERNATIONAL CLASSIFICATION

DISEASE	Male	Female	Total
All other Diseases Classified as Infective and Parasitic .....	...	2	2
Malignant Neoplasms	3	...	3
Anaemias	1	...	1
Vascular Disease Central Nervous System	1	4	5
Arteriosclerotic and Degenerative Heart Disease	25	18	43
Pneumonia	52	32	84
Cirrhosis of Liver	1	...	1
TOTALS	83	56	139

TABLE 4
CLASSIFICATION OF DEATHS ACCORDING TO ORIGINAL PSYCHIATRIC
DIAGNOSES—1963

DISEASE	Male	Female	Total
Schizophrenic Disorders	12	4	16
Manic Depressive Reaction	1	1	2
Involuntal Psychosis .....	...	1	1
Paranoia and Paranoid States	3	3	6
Senile Psychosis	43	29	72
Psychosis with Arteriosclerosis	20	14	34
Psychosis of Undemonstrable Etiology .....	...	2	2
Undiagnosed	1	...	1
Hysterical Reaction .....	...	1	1
Mental Deficiency .....	...	1	1
Neurosyphilis, Tabes (Dorsalis)	2	...	2
Organic Brain Syndrome	1	...	1
TOTALS	83	56	139

INSTITUTIONS FOR MENTAL DEFECTIVES

THE PROVINCIAL TRAINING SCHOOL, RED DEER DEERHOME, RED DEER

The Provincial Training School patient population increased to 844, from a previous population of approximately 800. Seven patients were transferred to Deerhome. There were ten deaths.

During the latter part of the year, 45 additional beds became available at the Baker Memorial Sanatorium, for paediatric cases.

The training program at the Training School continued intensively. Twenty-nine trainees were discharged during the year.

Twenty Nursing Staff members received Certificates in Mental Deficiency Nursing.

Deerhome's patient population reached 958 during the year, from a previous 944. Four patients were discharged and there were twenty-four deaths.

The new recreational and occupational therapy building was in active use during the year.

PROVINCIAL TRAINING SCHOOL, RED DEER

**L. J. le Vann, L.R.C.P. Edin., L.R.C.S. Edin.,
L.R.F.P.S. Glas., Medical Superintendent**

IN RESIDENCE, ADMISSIONS, DISCHARGES, DEATHS

There were 761 patients in residence at this School January 1, 1963. This number increased to 787 by December 31, 1963. In addition 35 beds were utilized at the Baker Sanatorium by the 1st of January, 1963. At the end of the year 57 beds had become available and were in use at that Institution. Since the School was instructed by the Dominion Bureau of Statistics to include the total bed-accommodation for retarded children, both, at the Baker Sanatorium and the Training School as one entity, the inclusive population figures for January 1, 1963 were 796 and for December 31, 1963, 844. The proportions of male and female are given in Table 1. The children admitted to the School's auxiliary unit at the Baker Sanatorium were bed-cases with physical deformities, whose continuing care was not feasible in active treatment hospitals or at home.

New admissions numbered 83 of whom 51 were male and 32 were female. The readmission numbers continued to be numerically small and only 11 trainees were readmitted during the year, six male and five female. These readmissions were largely administrative. 29 trainees were discharged from the School, 16 male and 13 female and seven trainees were transferred to the Deerhome Institution. There were 10 deaths during the year, four male and six female.

APPLICATIONS FOR ADMISSION

The School received 146 applications for admission during the year. Of these, it was possible to admit 25 patients who were considered the most serious ones, although, all in all, 83 children were admitted.

EUGENICS BOARD VISITS, STERILIZATIONS, ET CETERA

The Eugenics Board visited the School on five occasions and 51 cases were presented for their consideration. Of these 51 cases, preliminary examination had previously been carried out by the Provincial Guidance Clinics on 49 cases.

STAFF CHANGES AND ACTIVITIES

The School was able to maintain its allotted quota of nursing staff and the in-training program continued as in previous years. Twenty nurses and male attendants received their certificates in Mental Deficiency Nursing, nine males and 11 females. The Honorable Dr. J. Donovan Ross, Minister of Health and Dr. Randall R. MacLean, Director, Division of Mental Health were honored guests at the graduation ceremonies.

The position of Educational Psychologist was filled during the year.

HEALTH OF TRAINEES AND STAFF

The health of trainees and staff remained generally good. There were no serious epidemics, other than a mild measles outbreak towards

the end of the year and the occasional localized episode of gastrointestinal infection. Immunization was carried out for the Enteric Fevers, Diphtheria, Pertussis and Sabin Vaccine was administered to the children who already had their previous immunization inoculations against Poliomyelitis.

There were no cases of Tuberculosis detected.

TRAINING PROGRAM FOR NURSES AND ATTENDANTS

The School maintained a high level of nursing training for young men and women interested in obtaining their diploma in Mental Deficiency Nursing. This year there were 136 nursing students in the three year classes, 37 males and 99 females. There were 63, 50 and 23 students enrolled in the first, second and third year classes respectively. Applications for the course were received from many areas in Canada. A high level of selectivity was utilized to pick those who were considered as students most likely to benefit from this program.

TRAINING PROGRAM FOR TRAINEES

This year, with the construction of a new six-room schoolhouse and auditorium, the Training School had three distinct schoolhouses. These were designated as Junior, Middle and Senior Schools. In effect, the Junior School dealt with the Sense Training program which operated four classes and provided training for 117 children. These children were, wherever possible, prepared for their subsequent academic training. Sense Training activities were subdivided into five distinct levels or groups as follows:

1. Play Groups
2. Introductory Classes
3. Junior Classes
4. Trainable Classes
5. Senior Classes

It was only from the last two classes that children were able to advance further to the Middle or Senior academic school. However, there was constant alertness to ensure that children of the first three groups were, wherever possible, promoted to the last two Sense Training classroom activities.

The Middle School which remained co-educational, dealt with the first four academic classes. The Senior School carried a school-work program up to grade seven. Here advanced work was presented to a select group of pupils and provided modified academic training, oriented, as much as possible, to maintain a pragmatic school program for subsequent Vocational Training. Emphasis in teaching trainees good manners, cleanliness and acceptable work habits was maintained.

The incorporation of Vocational Training as part of the school-day was also maintained and augmented in all the school classes. The trainees of the academic school participated, at least, one morning or afternoon a week in Vocational Training which comprised such activities as cooking and sewing for the girls and carpentry and agriculture for the boys.

A major vocational project was facilitated by funds made available by parents of the children at the School. This enabled commencement of a four-sheet artificial ice curling rink, which reached a stage of advanced construction by the year's end. In cooking classes, held twice weekly, female trainees were taught food purchasing, preparation and the proper method of serving food. For the annual Spring Sale, a variety of confections and cake were made by the children of these classes and sold to the general public. For the Fall Sale, some 200 pounds of Christmas cake, cookies and chocolates were baked and packaged and found ready consumption.

The teaching staff was augmented by an additional six teachers, making a total teaching cadre of 16 certificated school teachers, four sense training school teachers, two vocational training instructors and one farm instructor.

In participation at the Edmonton Exhibition and Red Deer Fair, the School again maintained a commendable level of awards. Some 86 prizes, which were received last year, were exceeded this year when 101 ribbons were awarded for excellence of completed projects.

The Christmas concert was again directed by the school unit and this year, in addition to the Training School play, Linden House children also presented a play for the annual Christmas concert.

In all 131 children attended the Middle and Senior Schools.

RECREATIONAL ACTIVITIES

The Recreational staff maintained a high level of activities with an average daily attendance of 281 children participating in ball competitions, ice skating, bowling and swimming. The outdoor pool during the summer months and the indoor heated pool during the winter, were allotted for that purpose by the City Recreation Department.

Through recreational activities, many children achieved muscular co-ordination of atrophied limbs and in many cases, a general improvement in physical standards.

There were only 26 minor accidents during the year with a monthly average of less than 2.1%. This again, indicated the care exercised by the Recreational Training Department in anticipating and forestalling any serious injuries.

AGRICULTURAL ACTIVITIES

This year added impetus was given to help the boys obtain a higher level of efficiency in farm work and general agricultural methods. Some 37 boys were instructed in advanced agricultural procedures in suitable classes which included, not merely, the actual operation of the farm, but, training in maintaining and operating tractors and farm machinery. There was not one recorded accident as a result of this extended training. The boys were also instructed in the preparation and grooming of cattle. They also took part in the Red Deer Fair horticultural section.

Modern methods of animal husbandry were also taught and a new addition of training included the feeding and care of beef cattle, of which a nucleus herd was purchased during this year.

OCCUPATIONAL THERAPY

This was incorporated as part of the academic training program for the year, particularly, with respect to children who were not likely to reach the higher school level. The Occupational Therapy classes provided finished products both for the Spring and Autumn Annual Sales. Approximately 1,000 projects were completed and many of the better ones were entered into the Red Deer Fair. The School received 69 awards; the majority of which were first and second prizes.

Basic principles of manual dexterity were exemplified during this therapy phase of training and 142 trainees attended during the year. In addition, the Occupational Therapy Department provided therapy-projects for several children who could not leave their Villas, due to physical disabilities.

VOCATIONAL TRAINING DEPARTMENT

The Vocational Training Department concentrated this year on the construction of the Curling Rink. Training on this large project centred on making a group of boys, mostly of imbecile intelligence level into competent carpenter's helpers. During the whole of construction, none of the group sustained any injuries. Patients of their level who were previously considered as only able to sit about and do nothing, demonstrated the potential of even comparatively severely retarded and "uneducable children".

SHOEMAKER

The shoe instructor maintained shoe repairs for the Training School and Deerhome and instructed a small group of trainees in shoe repairs.

EXTRA MURAL ACTIVITIES

The children visited outside areas in the environs of Red Deer which included picnic-sites, Zoos, outings to a Fish Hatchery and local Dairies. Groups of 20 boys and girls alternately spent the entire summer at the Randall R. MacLean Cottages at Gull Lake. 320 children spent part of the summer at this pleasant resort. The parents continued their maintenance of the furniture at the cottages and purchased a new commercial electric stove for the cottages. They also maintained all the School's Television sets and paid for their repairs, as well as purchasing and providing the necessary funds to operate a small eight-seater bus, also donated to the School by the parents.

RESEARCH AND ORIGINAL INVESTIGATIONS

During the year, research work carried on studying the relation to X-ray and its effect on chick embryos (unpublished). It was hoped to complete and publish this paper in 1964. Further work was carried out studying the relationship of Congenital Deformities in children and their correlation to Mental Deficiency. Geographical location as a factor of these abnormalities was also investigated.

MAINTENANCE OF FURNITURE AND EQUIPMENT

The maintenance and replacement of furniture and equipment was carried out as usual during the year.

KITCHEN AND DINING ROOM

The Dietary Department carried out a full program of meals for patients, as well as staff members, with a good varied menu.

Special efforts were made to provide an attractive menu for the various children's parties held throughout the year on such occasions as Valentine's Day, Easter and Christmas.

During the Summer months provision was made for suitable food for outdoor activities, such as wiener roasts and hamburger fries held by various patient groups.

Quick freezing and preservation of farm and garden produce was carried out which included the following: five tons of turnips and eight tons of carrots diced and frozen for storage to be used next Spring and Summer. In addition to this 170 gallons of pickles and relishes were prepared by the kitchen staff and 1,165 gallons of dill pickles were prepared and canned at the Provincial Mental Hospital Cannery.

LAUNDRY AND LINEN REPAIR

The service provided by this Department has been good considering the facilities available. With the new Services building now under construction, it is hoped that the new equipment will enable the laundry to improve this area of service to the Institution.

STORES

A perpetual inventory of approximately \$95,000.00 was maintained by this Department supplying all Institutional requirements for food, clothing, drugs, hardware, cleaning supplies, etc., on a daily basis.

FARM

Most grain crops yielded very well although lodging presented some harvesting problems. The barley crop which was hailed out completely on July 4, 1963 made a remarkable recovery due to excellent moisture conditions and a frost-free fall, threshing out at 50 bushels to the acre, although the grade was affected to some degree. Hay crops yielded well in spite of hot dry weather in June and pastures stood up very well throughout the Summer. A start was made on a beef herd at the Larratt farm, five cows and four heifers, all Herefords, being purchased through the Provincial Department of Agriculture. Surplus Holstein bull-calves were also retained to feed out for beef. Production of milk, pork and eggs was higher than last year. The acquisition of additional farm-land enabled the School to extend its training program and agricultural program.

GARDEN

An extremely large crop of potatoes and vegetables was harvested, yields of all kinds considerably above average and of good quality. Extra storage space had to be obtained, one root-cellar at Deerhome was made available and an unused water reservoir was rented at a very reasonable rate from the City of Red Deer. Some surplus potatoes and vegetables were made available to other Institutions and some were sold to wholesale distributors. A large part of the carrot and turnip crop was prepared for freezing by the kitchen staff and placed in cold storage. Pickles and sauerkraut were made here and canned at the Provincial Mental Hospital, Ponoka.

GROUNDS

A large area of the grounds and farm yard was torn up last spring to lay additional water and sewer lines and a considerable amount of re-landscaping was done, mostly by contract. New hedges were planted and a start was made on landscaping around the new school building. The late fall kept flowers in bloom until October. Lawn mowers had to be used more than usual due to heavy growth last summer which posed larger maintenance problems. Snow ploughing and removal was at times difficult, due to a lack of proper equipment.

MAINTENANCE

The necessary maintenance was carried out by the Carpentry, Painting, Plumbing and Electrical Departments.

APPRECIATION

The Medical Superintendent would like to express his appreciation to the Honorable Dr. J. Donovan Ross, Minister of Health for the Province of Alberta, for his active interest that he has demonstrated at all times in the care and well-being of the retarded child. To the Director, Division of Mental Health, Dr. Randall R. MacLean, whose availability has made the supervision of this School so much easier and particularly, the Staff of the Provincial Training School, whose invariable good care and attention to detail of the children has given the School a high reputation which it has enjoyed over the years.

TABLE 1
MOVEMENT OF FEEBLEMINDED POPULATION

	M	F	T	M	F	T
Defectives on Books of Institution as at 1st January, 1963	446	350	796			
ADMISSIONS:						
1. First Admissions—voluntary	51	32	83			
2. Readmission	6	5	11			
3. Transfers .....	.....	.....	.....
Total number of admissions	57	37	94	57	37	94
Total Number of Defectives on the Books during 1963	503	387	890			
SEPARATIONS:						
1. Discharges	16	13	29			
2. Transfers	6	1	7			
3. Deaths	4	6	10			
Total number of separations	26	20	46	26	20	46
Defectives on the Books of the Institution at 31st December, 1963	477	367	844			

TABLE 2
AGE OF RESIDENT POPULATION CLASSIFIED WITH REFERENCE TO MENTAL STATUS

AGE GROUP	IDIOT			IMBECILE			MORON			BORDERLINE			TOTALS		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
0 - 4 years	13	3	16	17	9	26	12	2	14	1	1	1	30	12	42
5 - 9 years	16	16	32	56	35	91	38	19	57	5	2	2	85	53	138
10 - 14 years	17	19	36	81	76	157	56	38	94	5	2	6	136	116	252
15 - 19 years	11	11	22	65	51	116	32	12	44	1	1	1	137	101	238
20 - 24 years	13	14	27	19	13	32	13	12	25	1	1	2	46	40	86
25 - 29 years	8	9	17	11	3	14	2	1	3	1	1	1	21	13	34
30 - 34 years	5	4	9	5	5	10	1	1	2	1	1	1	8	6	14
35 - 39 years	5	4	9	3	3	6	1	2	3	1	1	1	8	5	13
40 - 44 years	1	1	2	2	1	3	1	1	2	1	1	1	2	2	4
45 - 49 years	1	1	2	2	2	4	1	1	2	1	1	1	2	2	4
50 - 54 years	2	2	4	1	2	3	1	1	2	1	1	1	1	1	3
55 - 59 years	2	2	4	1	3	4	1	1	2	1	1	1	1	1	3
60 - 64 years	1	1	2	1	1	2	1	1	2	1	1	1	1	1	3
65 - 69 years	1	1	2	1	1	2	1	1	2	1	1	1	1	1	3
TOTALS	88	83	171	260	203	463	122	77	199	7	4	11	477	367	844

TABLE 3
MENTAL STATUS OF FIRST ADMISSIONS, READMISSIONS AND TRANSFERS

Mental Status	First Admissions			Readmissions			Transfers			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T
Idiot	15	7	22	....	....	....	....	....	....	15	7	22
Imbecile	24	23	47	3	1	4	....	....	....	27	24	51
Moron	7	1	8	3	4	7	....	....	....	10	5	15
Borderline	5	1	6	....	....	....	....	....	....	5	1	6
TOTALS	51	32	83	6	5	11	....	....	....	57	37	94

TABLE 4
AGE GROUP OF FIRST ADMISSIONS, READMISSIONS AND TRANSFERS

Age Group	First Admissions			Readmissions			Transfers			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T
0 - 4 years	15	6	21	....	....	....	....	....	....	15	6	21
5 - 9 years	22	16	38	....	....	....	....	....	....	22	16	38
10 - 14 years	8	8	16	....	....	....	....	....	....	8	8	16
15 - 19 years	6	2	8	....	1	1	....	....	....	6	3	9
20 - 24 years .....	....	....	....	1	3	4	....	....	....	1	3	4
25 - 29 years .....	....	....	....	4	1	5	....	....	....	4	1	5
30 - 34 years .....	....	....	....	1	....	1	....	....	....	1	....	1
TOTALS	51	32	83	6	5	11	....	....	....	57	37	94

TABLE 5
CAUSES OF DEATH DURING 1963
ABRIDGED INTERNATIONAL CLASSIFICATION

CLASSIFICATION	Male	Female	Total
Viral Pneumonia	1	....	1
Status Epilepticus	1	....	1
Exhaustion of Epilepsy	1	....	1
Influenzal Pneumonia .....	....	1	1
Epilepsy, Cerebral Oedema .....	....	1	1
Broncho Pneumonia: Congenital Hydrocephalus .....	....	1	1
Grand Mal Epilepsy	1	....	1
Broncho Pneumonia .....	....	1	1
Hydrocephalus, Meningocele and Pneumonia .....	....	1	1
Pulmonary Embolus .....	....	1	1
TOTALS	4	6	10

TABLE 6
DEATHS BY INTELLIGENCE LEVELS

CLASSIFICATION	Male	Female	Total
Idiot	2	3	5
Imbecile	1	2	3
Moron .....	....	1	1
Borderline	1	....	1
TOTALS	4	6	10

TABLE 7
DENTAL CARE

Examinations	333
Ag. Fillings (L.A.)	470
Ag. Fillings (G.A.)	126
Extractions (L.A.)	163
Extractions (G.A.)	239
Bonfil Fillings	8
X-Rays	71
Scaling (L.A.)	11
Scaling (G.A.)	1
Cleaning (L.A.)	12
Cleaning (G.A.)	1
Dentures	6
Partial Plates	3
Stainless Steel Caps (L.A.)	3
Stainless Steel Caps (G.A.)	2
Bridge	1
Removing foreign body (tooth) from nose (G.A.)	1

DEERHOME, RED DEER

R. R. MacLean, M.D., Cert. Neurol. and Psych., F.A.P.A., Cert. M.H.A. (A.P.A.)

MOVEMENT OF RESIDENTS

The number of patients in residence on 1st January, 1963 was 944, of whom 495 were men and 449 were women. On 31st December, 1963, the number of patients in residence was 958, of whom 512 were men and 446 were women. The details are as set out in Table 1.

GENERAL HEALTH

The general health of the patients was good. Medical care was provided by Parsons Clinic, Red Deer, on the basis of a physician visiting regularly, two mornings per week, and responding to all emergency calls as the need arose. There was an average of 65 patients per week prescribed for under this scheme. In the interim, supervision was carried out by Registered Nurses.

Surgery was necessary for 33 patients (excluding eugenics). Of these, 26 patients were admitted to the Red Deer Municipal Hospital, one to the Provincial Training School, one to the Provincial Mental Hospital, Ponoka, one to the Provincial Mental Institute, Edmonton; four were attended to at Parson's Clinic. Out of the above cases, sixteen patients received major surgery.

Seventeen patients were presented to the Eugenics Board and successful surgery was carried out on eleven patients at the Provincial Training School.

A member of the Provincial Mental Hospital Medical Staff visited regularly and interviewed and prescribed treatment for any psychotic or disturbed patients.

The Director of the Division of Mental Health visited the institution frequently, made rounds and attended to many administrative matters.

A routine admission chest X-ray was taken of each patient admitted direct to Deerhome, and these X-rays were sent to Baker Memorial Sanatorium for interpretation.

There was a total of 113 diagnostic X-rays taken upon the doctor's recommendation and a total of 83 dental X-rays at the Provincial Training School or Parson's Clinic.

The Laboratory Department did extensive blood work as well as urinalyses and Wassermans which were carried out on all new admissions.

Domestic staff and dietary staff had chest X-rays and throat and stool cultures done routinely as required by the local Board of Health. All patients on tranquillizers and epileptic medications had urinalyses, White Blood Counts and Hemaglobins every three months or whenever advisable.

Dental clinics were held regularly, 58 clinics in all. 722 patients were examined, 195 fillings were done and several treatments were carried out. There were 471 extractions with local anaesthetics; five patients were supplied with new dentures and many other dental repairs were done.

The local optometrist examined 51 patients and 15 were fitted with new glasses. There were 134 pairs of glasses repaired. Five patients were referred to the local ophthalmologist for consultation and treatment. Three new Blind Pensions were established.

An outbreak of chicken pox on one of the female wards was confined to this area and did not reach serious proportions.

ACCIDENTS AND ELOPEMENTS

There were 26 accidents resulting in fractures. There were 15 elopements; of these one was out overnight and one did not return.

OCCUPATIONAL THERAPY

The total number of patients receiving daily occupational therapy was approximately 200; one-third of these residents were males and two-thirds were females. The majority of the male patients were interested in woodworking such as making lawn furniture, bedside tables, desks and various types of cabinets, many of which were custom built. There were 712 articles completed in the Woodworking Shop. The male patients showed considerable interest in leathercraft, weaving, rug making and ceramics. Five male staff supervised the above projects. The female patients, under the supervision of six female staff, completed articles which were knitted, embroidered, and hand woven. A new automatic knitting machine was purchased and was well utilized. There were special classes for those patients incapable of doing intricate handwork or of concentrating for long periods. These patients were supervised while doing coloring, or simple embroidery.

The Annual Sale and Tea on 6th November was very successful. There were 2,727 articles for sale and most of these were sold, and many special orders were taken for delivery prior to Christmas.

The quality of work in general improved again this year. Nineteen prizes were won in the field of domestic arts at the Red Deer Fair in August, 1963.

Many of the patients were capable of gainful employment off the premises of Deerhome, and many were employed on the premises in various departments, under supervision.

There were 25 male patients and 18 female patients capable of working for private citizens in and about the vicinity of Red Deer; of these, an average of 12 male patients and 13 female patients went out to work each working day of the year. Five male patients worked out on a monthly basis the year round, as well as two female patients.

Approximately 330 male and female patients assisted with the routine work in various departments of Deerhome, such as laundry, kitchen, stores, male and female staff residences, and at various seasonal occupations.

RELIGIOUS SERVICES

The spiritual needs of the Protestant patients were attended to by the Red Deer Ministerial Association. Each Minister took turns and held Sunday services throughout the year, with the exception of the months of July and August.

The Roman Catholic clergy visited the Roman Catholic and Greek Catholic patients at regular intervals, and Mass was said at least once a month.

RECREATION

The following program was followed throughout the year on Deerhome premises:—

1. Walking parties (weather permitting) were carried out daily with as many patients participating as were physically fit to do so.
2. Physical fitness classes were carried out routinely, with ingenious methods used to activate the wheelchair patients.
3. Weekly matinee dances, bingo games and film showings were very popular all year. Four evening dances with special decorations, costumes, live music and talented entertainers, were enjoyed.
4. Television sets, radios, record players, piano playing and card games were enjoyed on the lodges for the less active patients. Many indoor table games were enjoyed with staff participation and supervision.

Special activities were greatly facilitated this year with the purchase of the Deerhome patients' bus. Frequent seasonal excursions were made possible and were thoroughly enjoyed by large groups of patients.

Summer trips included visits to the Calgary Zoo, Edmonton Alberta Game Farm, picnics to Sylvan Lake and Pine Lake. The summer months also showed groups of patients enjoying the facilities of Red Deer Swimming Pool twice weekly. The annual Deerhome Circus was again held in June and was attended by 900 patients with 200 staff supervising and participating, and was an outstanding success. Organized seasonal games were carried out such as fast ball, soccer, volley ball, track and field competitions in the summer months, and hockey, tobogganing, bowling, basket ball, etcetera in the winter months.

The Red Deer Parade was again enjoyed by 450 patients during the morning procession and another 200 patients attended the afternoon performances. The patients put in many long hours on the float which was entered in the parade. It was most gratifying to see their efforts rewarded with the winning of two silver trophies, both first prizes.

Christmas was highlighted with many activities. Christmas concerts with patient talent included two performances to accommodate the active and less active patients. All the lodges had decorated Christmas trees and Santa Claus visited every ward on Christmas morning. There were numerous activities and treats to culminate an eventful holiday season. Approximately 120 patients went home over the Christmas holiday.

The Recreation staff included four males and three females. The co-operation and interest of service clubs and many public minded citizens is acknowledged in the promotion of many of the above events.

During 1963, patient participation increased approximately fifty per cent in recreational activities as compared to 1962.

GARDEN AND GROUNDS

Further landscaping was done, bringing the completed landscaping to approximately twelve and one-half acres. 18,500 bedding plants and 900 potted plants were raised.

Garden produce was again successfully grown and allowed for full utilization of patient assistance. There were approximately 60 acres under cultivation, yielding 320 tons of various vegetables.

STAFF

In general the health of the staff was good. The routine administration of T.A.B.T. vaccine and poliomyelitis vaccine was carried out. Sabin "sugar lumps" were also given.

VISITORS

The Director of the Division of Mental Health visited regularly.

The annual visit was made by the Provincial Hospital Visiting Board.

The Alberta Psychiatric Association held a conference at Deerhome early in the year.

Special rounds were made by several groups, including ladies attending Conventions for the Chiropractic Association, the Dairymen's Association, the United Church, the Stockgrowers' Association, the Knights of Columbus and the Junior Chamber of Commerce.

Other visitors included groups of nurses from different parts of the Province, a Social Worker from Ottawa, representatives from the Edmonton Day Centre, as well as medical students from the Provincial Mental Hospital, Ponoka, who attended approximately every other week.

TABLE 1
MOVEMENT OF POPULATION DURING 1963

	M	F	T	M	F	T
In Residence 1st January, 1963				495	449	944
ADMISSIONS:						
From P.M.H., Ponoka	7	3	10			
From P.T.S., Red Deer	6	1	7			
From P.M.I., Edmonton	3	1	4			
Direct	17	14	31			
Re-admitted	4	4	8			
Returned from L.O.A.	148	76	224			
	185	99	284	185	99	284
				680	548	1228
SEPARATIONS:						
Formal discharges		4	4			
On L.O.A.	152	83	235			
Deaths	10	14	24			
To P.M.H., Ponoka	2	1	3			
To P.M.I., Edmonton	3	....	3			
Elolements	1	....	1			
	168	102	270	168	102	270
Total in Residence 31st December, 1963				512	446	958

TABLE 2
ORIGINAL DIAGNOSES ON ADMISSION TO MENTAL HOSPITAL

Idiocy	139
Imbecile	401
Moron	203
Borderline intelligence	15
Mongol	59
Mental deficiency, unspecified	14
Mental deficiency with Psychoneurosis	1
Mental deficiency with psychosis:	
Idiot	2
Imbecile	31
Moron	46
Borderline	2
Other	50
—	—
Schizophrenia	131
Manic Depressive	50
Psychosis with Convulsant Disorder	4
Psychosis with Huntington's Chorea	11
Traumatic psychosis	2
Epilepsy	1
Congenital syphilis	11
Neurosyphilis	2
Syphilis	2
	1
	<u>1,047*</u>

*This total includes 89 patients who were on L.O.A. from Deerhome on 31st December, 1963.

TABLE 3
CAUSES OF DEATH DURING 1963
ABRIDGED INTERNATIONAL CLASSIFICATION

DISEASE	Male	Female	Total
Malignant neoplasms, including neoplasms of lymphatic and haematopoietic tissues .....	....	1	1
Vascular lesions affecting central nervous system	1	....	1
Arteriosclerotic and degenerative heart disease	2	....	2
Other diseases of heart	1	1	2
Pneumonia	4	10	14
Ulcer of stomach and duodenum .....	....	1	1
Appendicitis	1	....	1
All other diseases .....	....	1	1
All other accidents, including burns	1	....	1
	<u>10</u>	<u>14</u>	<u>24</u>

TABLE 4
CLASSIFICATION OF DEATHS ACCORDING TO ORIGINAL PSYCHIATRIC
DIAGNOSES—1963

DISEASE	Male	Female	Total
Mental Deficiency	8	11	19
Mental Deficiency with Psychosis	2	3	5
	<u>10</u>	<u>14</u>	<u>24</u>

LINDEN HOUSE, RED DEER

PILOT PROJECT FOR EMOTIONALLY DISTURBED
CHILDREN

This project has now operated for four years. Reports from parents of discharged patients from Linden House continue to be favourable. In 1963 six children were admitted and six children were discharged. The average number of children resident in Linden House, per month, has been eighteen.

The nature of the treatments, techniques, activities and observations are described in detail in the Annual Report which follows.

It was decided that the success of these operations warranted the continuation of services which the unit was in a position to provide.

LINDEN HOUSE FOURTH ANNUAL REPORT
RED DEER

**L. J. le Vann, L.R.C.P. Edin., L.R.C.S., Edin., L.R.F.P.S. Glas.,
Medical Superintendent**

INTRODUCTION

The inception of Linden House commenced in January, 1960. The following report deals with current statistical facts and in view of the "pilot project" nature of Linden House, makes certain recommendations based on experiences that have been encountered.

IN RESIDENCE, ADMISSIONS, RE-ADMISSIONS, TRANSFERS,
DISCHARGES

There were five admissions to Linden House; two males and three females over the year. One female was re-admitted on the basis that there was not adequate supervision for her at home. One girl and one boy were transferred from Linden House to the Provincial Training School proper. Six children were discharged from Linden House; three males and three females. Four of these children returned home; one child was admitted to a boarding school for normal children in B.C. and continued to make good progress. Another was admitted to The William Roper Hull Home in Calgary.

REQUESTS FOR ADMISSION

There were eight applications for admission to Linden House; three females and five males. This, as in previous years, indicated the need for more facilities for males than females.

Geographically, these requests came from Edmonton (four), Lethbridge (two), Red Deer (two) and Calgary (nil).

Of these eight it was noted that in three cases the underlying problem was in more likelihood one of oligophrenia with super-imposed behavioural disorders.

Of the eight application forms received during 1963, five were admitted; two males and three females.

THERAPY PROGRAM FOR CHILDREN

There was no need to make marked changes in the therapy program for children here. Linden House remained dependent on utilizing young University graduate staff who, through a program of twice-weekly staff meetings, were able to discuss and evaluate methods and care of children for whom they were responsible. During one session each week, the nursing staff were also invited and participated in presenting weekly reports with respect to the children at Linden House.

It may be of interest to note that no rigid adherence to any specific psychiatric philosophy for the therapists was ever prescribed. Therapists with conventional, psycho-analytic or Pavlovian orientation were allowed to employ any or all of these techniques and all found merit. In the main, the therapy staff tended to utilize a "psychiatric pot-pourri" in coping with therapy problems and this was found most successful.

During 1963 four children were able to attend the Public School System in Red Deer. It should be noted that in no case where children attended the Red Deer Schools during the past three years, were there any marked difficulties necessitating the withdrawal of any child from the normal school system.

For the past three years the major problem, insofar as children being able to attend the routine day school program was concerned, was that in nearly every instance, children admitted to Linden House had fallen considerably behind their chronological scholastic level and intensive remedial schooling was required to bring them to a normally anticipated scholastic achievement.

It should be noted that close to one-half of the present population at Linden House occurred in the 85-100 I.Q. range and the necessary accelerated school program carried out here for these children required considerable skill and patience. The school teachers at Linden House also participated in the in-service training and weekly meeting sessions.

This year, as in previous years, the children's "Parliament" was maintained and proved a valuable means of encouraging children to ventilate their pleasures and displeasures and additional insight was thereby made available to the therapy staff with respect to their children so that modifications in the therapy program could be made when necessary for the child concerned.

Linden House still continued to operate as an open door Villa and there were, as in previous years, no efforts made by any of the children to elope.

TRAINING PROGRAM FOR NURSES AND ATTENDANTS

In view of the limited availability of locations where training for staff members for an Emotionally Disturbed Childrens' Unit is possible, it was found both expedient and useful to maintain an in-training program including all staff members.

All the nursing and attendant staff members were selected from amongst the more promising nursing and attendant staff at the Provincial Training School. Undergraduate nursing and attendant students continued to attend the three year program offered to qualify nurses in Mental Deficiency Nursing.

At the weekly meeting in which all the staff were included, nursing staff were assigned to give a clinical nursing resumé with respect to a specific child at Linden House and this was yet another means of giving nursing staff additional insight in coping intelligently with the children.

STAFF CHANGES AND ACTIVITIES

The staff situation remained relatively stable, however, marriage and its sequelae motivated the resignation of one psychologist. This post was not, as yet, filled.

It was found expedient to employ psychologists rather than social workers (who were not so readily available) for the therapy staff and they were found most successful in carrying the dual roles.

HEALTH OF CHILDREN AND STAFF

This has maintained a high level. Towards the end of the year an all-embracing measles outbreak occurred but was of little severity. Immunological work continued against all the communicable diseases.

EXTRA MURAL ACTIVITIES

All children at Linden House participated in many of the recreational functions at the Training School. The proximity to natural beauty spots enabled picnics and hikes to the Red Deer River Valley.

The children also visited the Red Deer outdoor and indoor swimming pools during the year at least once or twice a week.

The playgrounds at the Training School were also used extensively for baseball, football and soccer by the Linden House children.

VISITING BOARD AND VISITORS

Linden House was visited by the Provincial Visiting Board, the Honourable Dr. J. Donovan Ross, Minister of Health for the Province of Alberta, Dr. Randall R. MacLean, Director of the Division of Mental Health and several University groups including teachers who were taking post-graduate work in special education, medical students from the University of Alberta and members of the Canadian Mental Health Association.

It should be noted that in the main the children, although somewhat resentful of group visitors, showed less concern when visited by individual visitors.

HOME GOINGS

In nearly every instance where deemed useful, children were encouraged to spend time at home during Christmas and Easter holidays as well as during the summer months.

However, the summer was utilized as a means of advancing educationally, many children who were very far behind in their school levels when they arrived at Linden House.

OBSERVATIONS AND RECOMMENDATIONS

Over a four year period it appears that estimates for residential accommodation for children in the six to 14-year age group requiring care in "Emotionally Disturbed Childrens' Units" were not altogether realistic.

1. The Red Deer Clinic continues to see an increasing number of disturbed children beyond the 14-year range who are far more in need of residential care than the five to 14-year age group with whom Linden House is concerned. It has been the experience of the Guidance Clinic locally, that these adolescent children are not invariably the end product of emotional disorders in earlier childhood. Many of the adolescents' difficulties appear for the first time during the pubertal period or shortly afterwards.

2. There is little doubt that the emotionally disturbed male child is regarded less tolerantly than the female during periods of social upset, by the community and in planning for any additional accommodation, the bed percentage should be approximately three to one for boys and girls respectively.

3. Many children were retained at Linden House when there was no longer any real need for them to live in an active treatment area. However, due to the general unsuitability of homes from where these children come, and in many instances, the facility with which a rejecting parent is enabled to give up his child to be looked after by governmental agencies. Linden House had perforce, to maintain the care and education of these children beyond the necessary time.

It would be possible for these children to be looked after closer to their home areas and attend school if an intermediate living accommodation something between Linden House and the child's home were made available.

It would appear beyond question that facilities at present available in the way of foster home placements for these children is often far worse than the original area from where these children came.

Possibly public-spirited agencies or religious denominational groups should be encouraged to develop facilities like the Don Bosco Home in Calgary or The William Roper Hull Home also of that area for the purpose of intermediate placements for "convalescent" children.

APPRECIATION

The successful and uneventful operation of Linden House was considerably enhanced by the interest shown in its operation by the Honourable Dr. J. Donovan Ross, Minister of Health for the Province of Alberta, as well as by Dr. Randall R. MacLean, Director of the Division of Mental Health. It would be remiss not to include the Superintendent of Public Schools, Mr. G. H. Dawe, of the City of Red Deer as a helpful and co-operative friend who enabled the Linden House children to attend the Public School System in Red Deer.

The Medical Superintendent would also like to commend the Linden House therapy staff as well as the nursing and attendant staff who worked so diligently and commendably and in many instances utilized personal resources to carry out the necessary therapeutic requirements for their charges.

TABLE 1
MOVEMENT OF LINDEN HOUSE POPULATION

	M	F	T
Children on books of Linden House as at 1st January, 1963	14	6	20
ADMISSIONS:			
First admissions—voluntary	2	3	5
Re-admissions	1	1	1
Transfers	—	—	—
Total Number of admissions	2	4	6
Total number of Children on books during 1963	16	10	26
SEPARATIONS:			
Discharges	3	3	6
Transfers (2 to P.T.S.)	1	1	2
Total number of separations	4	4	8
Children on books of Linden House at 31st December, 1963	12	6	18

TABLE 2
MENTAL STATUS OF FIRST ADMISSIONS, RE-ADMISSIONS AND TRANSFERS

Mental Status	First Admissions			Re-admissions			Transfers			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T
Educational Problems with adequate intellect												
Others	....	1	1	....	1	1	....	....	....	....	2	2
Intellectual Inadequacy												
Borderline												
Poor School Progress	....	2	2	....	....	....	....	....	....	....	2	2
Anti-Social Trends												
Disrespect of Authority	1	....	1	....	....	....	....	....	....	1	....	1
Psychoneuroses												
Anxiety												
Some depression	1	....	1	....	....	....	....	....	....	1	....	1
TOTALS	2	3	5	....	1	1	....	....	....	2	4	6

TABLE 3
AGE GROUP OF FIRST ADMISSIONS, RE-ADMISSIONS AND TRANSFERS

Age Group	First Admissions			Re-admissions			Transfers			Totals		
	M	F	T	M	F	T	M	F	T	M	F	T
5 - 7	....			....			....			....
8 - 9	....	1	1	....	1	1	....			....	2	2
10 - 12	2	2	4	....			....			2	2	4
13 - 14	....			....			....			....
TOTALS	2	3	5	....	1	1	....			2	4	6

THE EUGENICS BOARD

The Eugenics Board for the Province of Alberta held fourteen meetings during the year 1963. These meetings were held at the Provincial Mental Institute, Edmonton, the Provincial Mental Hospital, Ponoka, the Provincial Training School, Red Deer, and Deerhome, Red Deer. The dates of the meetings held during 1963 were as follows:

January 31st, 1963	—	The Provincial Mental Institute, Edmonton
February 1st, 1963	—	The Provincial Mental Hospital, Ponoka
February 1st, 1963	—	The Provincial Training School, Red Deer
February 1st, 1963	—	Deerhome, Red Deer
April 25th, 1963	—	The Provincial Mental Institute, Edmonton
April 26th, 1963	—	The Provincial Mental Hospital, Ponoka
April 26th, 1963	—	The Provincial Training School, Red Deer
June 20th, 1963	—	The Provincial Mental Institute, Edmonton
June 21st, 1963	—	The Provincial Training School, Red Deer
October 9th, 1963	—	The Provincial Mental Institute, Edmonton
October 10th, 1963	—	The Provincial Mental Hospital, Ponoka
October 10th, 1963	—	The Provincial Training School, Red Deer
December 5th, 1963	—	The Provincial Mental Institute, Edmonton
December 6th, 1963	—	The Provincial Training School, Red Deer

The Board considered a total of 130 cases, 125 of which were passed for surgery. Two cases were deferred because they did not fall within the scope of The Sexual Sterilization Act, and the other three cases were re-presented. Of the 125 cases which were passed by the Board in accordance with The Sexual Sterilization Act (1955-C.311, S.5), 45 were male and 80 female. Of this number 26 were passed subject to their own consent.

Of the 125 cases passed by the Board during the year, 88 had first been examined at a Provincial Guidance Clinic, although some of these had been institutionalized prior to presentation. This group of 88 cases was made up of 37 males and 51 females.

OPERATIONS:

Operations were performed on 92 cases during the year, 31 being male and 61 female. All of these operations were performed at the Provincial Mental Institute, Edmonton, the Provincial Mental Hospital, Ponoka, and the Provincial Training School, Red Deer, with the exception of one case for which surgery was performed at the University Hospital, Edmonton.

The surgical operations mentioned above were performed by the surgeons of the Board, Dr. J. Ross Vant, of Edmonton, and Dr. R. M. Parsons, of Red Deer.

Approval by the Department of Public Health was given for the re-appointment of Mrs. C. T. Armstrong to the Board because Dr. Margaret Thompson had left Alberta to reside in Ontario. This appointment is for the duration of one year.

APPRECIATION:

As in previous years the Eugenics Board wishes to express thanks and sincere appreciation to the Director, Division of Mental Health, to the Medical Superintendents and their staffs, to the surgeons, and to the Guidance Clinics, for their cooperation in connection with the work of the Eugenics Board.

TABULAR SUMMARY:

A tabular summary of the work of the Provincial Eugenics Board to December 31st, 1963, is appended.

CASES PRESENTED AND PASSED
(To December 31, 1963)

Years	YEARLY TOTALS			CUMULATIVE TOTALS		
	Male	Female	Totals	Male	Female	Totals
1929-1933	87	201	288	87	201	288
1934-1938	557	438	995	644	639	1283
1939-1943	339	299	638	983	938	1921
1944-1948	237	311	548	1220	1249	2469
1949-1953	187	239	426	1407	1488	2895
1954	41	40	81	1448	1528	2976
1955	61	48	109	1509	1576	3085
1956	38	34	72	1547	1610	3157
1957	46	82	128	1593	1692	3285
1958	116	71	187	1709	1763	3472
1959	32	62	94	1741	1825	3566
1960	37	65	102	1778	1890	3668
1961	44	75	119	1822	1965	3787
1962	48	71	119	1870	2036	3906
1963	45	80	125	1915	2116	4031

OPERATIONS ONLY
(To December 31, 1963)

Years	YEARLY TOTALS			CUMULATIVE TOTALS		
	Male	Female	Totals	Male	Female	Totals
1929-1933	48	158	206	48	158	206
1934-1938	198	240	438	246	398	644
1939-1943	122	151	273	368	549	917
1944-1948	87	124	211	455	673	1128
1949-1953	84	162	246	539	835	1374
1954	37	25	62	576	860	1436
1955	45	25	70	621	885	1506
1956	22	24	46	643	909	1552
1957	49	33	82	692	942	1634
1958	54	53	107	746	995	1741
1959	40	50	90	786	1045	1831
1960	21	48	69	807	1093	1900
1961	53	52	105*	860	1145	2005
1962	33	65	98	893	1210	2103
1963	31	61	92	924	1271	2195

* As corrected

NATIONAL HEALTH GRANTS

Since 1948 the Federal Government has made a series of Health Grants available to the provinces. These relate to various specific problems such as General Public Health, Venereal Disease Control, Hospital Construction, etc. Within these grants the province may prepare a project in which it is proposed that a new health service may be financed. If the project comes within the terms of the federal regulations, it is approved by the federal authorities and the money becomes available to reimburse the province for its expenditure.

In most of the grants the project covers the entire cost of the service as outlined in the project but it is required by the federal authorities, that their grant be matched in the Cancer Control and Hospital Construction Grants.

The following table shows the amount of these grants for 1963/64, the amount that was committed under the various projects, the amount actually expended and the percentage of the various grants that was expended.

NATIONAL HEALTH GRANTS
ALBERTA
1963-64

Grant	Amount of Grant	Amount Committed	Amount Expended	Percentage of Grant Expended
Professional Training	\$ 139,351.00	\$ 139,277.31	\$ 135,951.98	97%
Hospital Construction	1,502,597.00	2,491,568.67	1,973,652.01	131%
Mental Health	652,544.00	652,544.00	652,544.00	100%
Tuberculosis Control	215,549.00	215,549.00	215,549.00	100%
General Public Health	1,107,755.00	1,107,755.00	1,107,755.00	100%
Cancer Control	234,742.00	234,742.00	234,742.00	100%
Medical Rehabilitation and Crippled Children	196,010.00	120,744.00	96,770.61	49%
Child and Maternal Health	134,650.00	84,998.52	69,844.78	51%
	<u>\$4,183,198.00</u>	<u>\$5,047,178.50</u>	<u>\$4,486,809.38</u>	<u>91%</u>

NOTE: The Hospital Construction Grant is an accumulative grant and new projects under planning will eventually use up all available funds.

CANADIAN RED CROSS BLOOD TRANSFUSION SERVICE IN ALBERTA

D. I. Buchanan, M.D., D.P.H., (Edmonton)

E. W. Nation, M.B., M.R.C.P., (Calgary)

The total number of voluntary donors attending clinics in Southern Alberta during 1963 remained constant, but in Northern Alberta the total number of bottles collected during 1963 fell short of the 1962 total by some 2,000 units. The exact statistics are given in Table 1 below.

TABLE 1
BOTTLES COLLECTED, 1963

Jan. 1 to Dec. 31 (inclusive)	Permanent and City Mobiles	Mobile Clinics		
Northern Alberta	19,848	15,965	=	35,813
Southern Alberta	15,867	16,418	=	32,285
TOTAL	35,715	32,383		68,098

BLOOD TRANSFUSIONS

The number of blood transfusions administered and the number of patients receiving these transfusions are listed in Table 2.

TABLE 2
TRANSFUSIONS OF WHOLE BLOOD, 1963

Jan. 1 to Dec. 31 (inclusive)	Blood Transfusions Administered	Patients Transfused
Northern Alberta	25,336½	10,091
Southern Alberta	17,114	8,641
TOTAL	42,450½	18,732

Following many discussions with the Honourable Dr. J. D. Ross and his colleagues at some of the main hospitals in Edmonton, it was decided that in the spring of 1963 crossmatching should be done in two of the major hospitals; namely, the University of Alberta Hospital and the Royal Alexandra Hospital. This development has resulted in the better utilization and saving of donor blood. For example, the University Hospital formerly returned an average of 310 units per month and the Royal Alexandra Hospital, 190 units per month (average for 1962); i.e., a total of 500 bottles of blood per month for the two hospitals, or 6,000 in one year. The corresponding monthly average for the University Hospital from March 1963 onwards has been 44 bottles, and 42 bottles in the case of the Royal Alexandra Hospital from May 1963 onwards; i.e., a total of 86 as compared to 500 per month.

In spite of this marked saving, we experienced shortages in February, August, and November as far as the Edmonton area was concerned, and had it not been for the better utilization of blood in the two large hospitals referred to above, we would have been in dire straits in meeting the needs of the other hospitals in the region.

It should be emphasized that more than 80 hospitals still depend upon the Edmonton Depot for all crossmatching facilities, as well as for their blood supplies. The same holds true in Southern Alberta, as virtually all crossmatching for that region is still dealt with directly by the Red Cross in the central Calgary laboratories.

PLASMA

A total of 535 pools of liquid plasma were shipped to the Connaught Laboratories for fractionation during 1963, 296 pools being sent from Calgary and 239 pools from Edmonton.

Rh AND ANTENATAL WORK

Apart from the special investigations undertaken in any unusual case involving apparent blood group incompatibility, a total of 41,708 antenatal, postnatal, and related specimens were tested during 1963, as shown in Table 3.

TABLE 3
Rh. AND OTHER INVESTIGATIONS, 1963

Jan. 1 to Dec. 31 (inclusive)	Antenatal Specimens and Others Investigated
Northern Alberta	24,587
Southern Alberta	17,121
TOTAL	41,708

TECHNICAL TRAINING

The one-year intensive course for technicians specializing in blood banking was discontinued in 1962. Nevertheless, it is a great pleasure to mention that two of our senior staff members, Mrs. Lisa Bogdan (Edmonton) and Mrs. Jeannette Emons (Calgary), obtained the A.R.T. (Advanced Registered Technologist's qualification) by examination in 1963, and in addition, two other technicians from Edmonton have been awarded the R.T. (Registered Technologist's qualification) in Blood Banking, following written examinations. All four of these girls merit high commendation. Mrs. Emons has since left Calgary, and she has been succeeded by Mrs. Mary Green as Technical Supervisor.

A serum procurement program has been actively pursued in Calgary, 316 anti-A or anti-B donations having been sent to Toronto, as well as 97 other special shipments.

In conclusion, we should like to express our sincere thanks to the voluntary workers in this region and to every member of the B.T.S. staff for their continued help and consideration in all aspects of this work.

PART II

ANNUAL REPORT

OF THE

Division of Vital Statistics

OF THE

DEPARTMENT OF PUBLIC HEALTH
PROVINCE OF ALBERTA

For The Year 1963

(Fifty-Ninth Annual Report)

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DEFINITIONS

- Infant deaths —deaths under 1 year of age.
- Neo-natal —deaths under 28 days (4 weeks) of age.
- Maternal —deaths due to delivery and complications of pregnancy, childbirth and the puerperium (Categories 640 - 689 International List).
- Stillbirths —foetal deaths of 28 or more weeks' gestation.
- Perinatal deaths—foetal deaths of 28 or more weeks' gestation plus infant deaths under 7 days (1 week) of age.
- Natural increase—excess of births over total deaths. (Death figures do not include stillbirths.)

RATES

(Unless otherwise indicated computed as follows)

- Per 1,000 population; Live births, deaths, natural increase, marriages.
- Per 100,000 population; Causes of death, divorces.
- Per 1,000 live births; Infant and neo-natal deaths, stillbirths.
- Per 10,000 live births; Maternal deaths.
- Per 1,000 total births (live- and still-born): Perinatal deaths.

DIVISION OF VITAL STATISTICS

J. COLVILLE, Director

INTRODUCTION

In summing up the vital statistics of the Province of Alberta for the year 1963, there is very little change in the rates as compared to those of the previous year. There were slight decreases in the birth, marriage, stillbirth, maternal death and infant death rates, and slight increases in the death, neo-natal death, peri-natal death rates and a significant increase in the divorce rate. The natural increase of births over deaths was 20.7.

POPULATION

The population of the Province for the year 1963, has been estimated at 1,405,000. This figure is an increase of 35,000 over that of the previous year. All rates in this report are, therefore, based on that figure. Commencing on page 10 is a population table by census divisions classified by municipalities for the years 1956 and 1961 and between pages 8 and 9 is a map of the Province by census divisions.

BIRTHS

During the year, 38,467 children were born to residents of the Province of which 2,132 were Indians. There were 337 fewer births registered than in 1962 and the birth rate declined from 28.3 per 1,000 population to 27.4. In general, the birth rates of all provinces have been declining during the past five years, but the present rate of 27.4 compares very favourably with the rate for Canada of 24.6. Of the total number of births 46 per cent occurred in the cities of Edmonton and Calgary. The number of births per month varied from a low of 2,894 registered for the month of February to a high of 3,510 for the month of May. The ratio of births to deaths was 4.07.

There were 19,761 male and 18,706 female births registered to residents of the Province, which gives a sex ratio of 1,056 male to 1,000 female births. The number of illegitimate births recorded was 2,741, as compared with 2,572 for the previous year with a corresponding increase in the rate per 100 live births from 6.6 to 7.1. In 1963, one confinement in 100 births resulted in the birth of more than one child. During the year, one set of triplets and 362 sets of twins were born. Of the total births registered, 38,030 or 98.9 per cent occurred in hospital.

The number of births to residents of the cities in the Province were as follows: Calgary, 8,079; Camrose, 219; Drumheller, 129; Edmonton, 8,750; Grande Prairie, 372; Lethbridge, 906; Medicine Hat, 602; Red Deer, 736; Wetaskiwin, 143.

The following table shows the most recent birth rates for Canada, and certain other Countries:

Canada	24.6	Ireland (Republic)	22.2
Newfoundland	32.1	United States	21.6
Prince Edward Island	27.6	Australia	21.6
Nova Scotia	25.1	New Zealand	25.5
New Brunswick	25.7	Denmark	17.6
Quebec	24.4	Finland	18.1
Ontario	24.1	France	18.2
Manitoba	23.9	Italy	19.1
Saskatchewan	25.2	Austria	18.7
Alberta	27.4	Norway	17.5
British Columbia	22.1	Netherlands	20.9
Yukon	33.3	Portugal	23.4
Northwest Territories	48.4	Spain	21.5
England and Wales	18.2	Sweden	14.8
Scotland	19.7	Switzerland	18.9
Northern Ireland	23.1	Western Germany	18.5

MARRIAGES

During the year, 260 fewer marriages were contracted than in the previous year. There were 10,163 registered as compared to 10,423 in 1962 with a corresponding decline in the rate from 7.6 to 7.2. Although there has been a very gradual decline in the provincial marriage rate since 1952, the 1963 rate is the highest of the provinces of Canada and compares favourably with the average of 6.9 for all provinces. As in the year 1962, the most popular age at the time of marriage was 19 for brides and 21 for grooms, but the most popular month of marriage switched from June to August.

Of the total marriages, 89 per cent of the grooms were bachelors, 3 per cent widowers and 8 per cent divorced, and of the brides 88 per cent were spinsters, 5 per cent widows and 7 per cent divorcees. There were 406 brides 16 years of age and under and 7 brides over 74 years of age. Of the grooms, 3 were 16 years of age and 48 were over 74 years of age.

The number of marriages registered in the cities of the Province were as follows: Calgary, 2,135; Camrose, 71; Drumheller, 61; Edmonton, 3,072; Grande Prairie, 135; Lethbridge, 334; Medicine Hat, 267; Red Deer, 254; Wetaskiwin, 64.

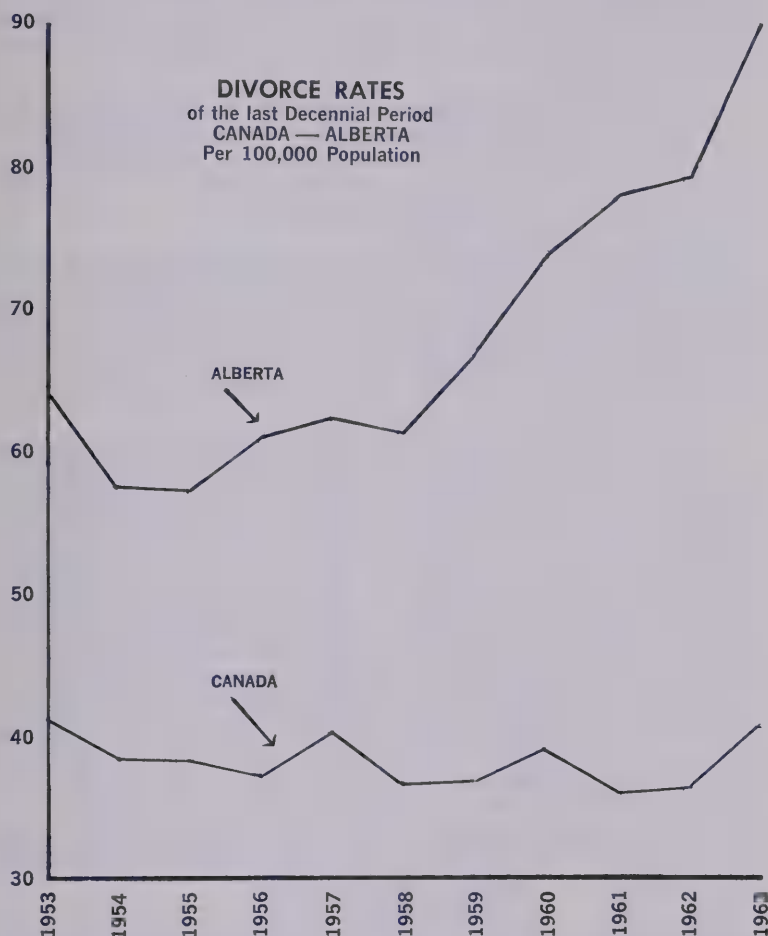
The following table shows the most recent rates of marriage for Canada, and certain other Countries:

Canada	6.9	United States	8.8
Newfoundland	6.8	Australia	7.4
Prince Edward Island	6.4	New Zealand	7.8
Nova Scotia	6.8	Denmark	8.0
New Brunswick	7.2	Finland	7.4
Quebec	6.8	France	7.1
Ontario	7.0	Italy	8.4
Manitoba	7.0	Austria	8.1
Saskatchewan	6.6	Norway	6.5
Alberta	7.2	Netherlands	8.0
British Columbia	6.9	Portugal	7.8
England and Wales	7.5	Spain	7.6
Scotland	7.6	Sweden	6.9
Northern Ireland	7.0	Switzerland	7.5
Ireland (Republic)	5.4	Western Germany	8.8

DIVORCES

There were 1,268 decrees of dissolution of marriage and 14 decrees of nullity granted during the year. Of the dissolutions, 509 were granted to husbands and 759 to wives and of the nullities, 4 were

granted to husbands and 10 to wives. The rate of divorce for 1963 was 90.2 per 100,000 population.



DEATHS

The death rate has fluctuated on a downward trend since the end of World War I and the 1963 rate of 6.7 per 1,000 population is the lowest ever recorded in the Province and was matched only in the year 1961. There were 9,444 deaths recorded during the year as compared to 9,264 for the previous year. Of the total deaths, 5,927 were males and 3,517 females giving a sex ratio of 1,685 male to 1,000 female deaths. The deaths of 306 Indians are included in the total number of deaths. The number of deaths registered per month, varied from a low of 705 in the month of September to a high of 875 in April. Of the total deaths, approximately 40 per cent occurred in the cities of Calgary and Edmonton.

Heart disease was the major cause of death during 1963 and accounted for 30 per cent of all deaths. There were 2,890 deaths assigned to this cause constituting a rate of 205 deaths per 100,000 population. This is an increase of 72 deaths over 1962, but the rate remained the same. Of the total number of deaths assigned to this cause, 1,919 were males and 971 females, which gives a sex ratio of 1,976 male to 1,000 female deaths.

Cancer the second major cause of death was responsible for 17 per cent of the total deaths. During 1963, 1,615 deaths were assigned to this cause, an increase of 73 over 1962. The rate per 100,000 population was 114, as compared to 112 for the previous year. Of the total deaths, 920 were males and 695 females, which gives a sex ratio of 1,323 male to 1,000 female deaths.

Vascular lesions affecting the central nervous system was the third major cause of death and took 993 lives, 505 males and 488 female. This is an increase of 36 over the previous year and the rate increased from 69 per 100,000 population to 70. Generally, this disease occurs in the life period from mid-adult to old age and of the total deaths assigned to this cause, 96 per cent were of persons 50 years of age and over.

The violent and accidental death group, accounted for 893 deaths of which approximately 38 per cent were due to automobile accidents. This is an increase of 43 deaths over the previous year and the rate per 100,000 population of 62 is unchanged from 1962. Of the total deaths assigned to this group, 687 were males and 206 females. Percentage wise, 14 per cent of the total deaths were of pre-school age children, 10 per cent in the age group 6-19 years, 19 per cent 20-29 years, 19 per cent 30-44 years, 19 percent 45-64 years and 19 per cent 65 years and over. Other deaths included in this group were as follows: motor vehicle accidents—350; other transport accidents—38; accidental poisoning—41; accidental falls—99; accidents caused by machinery—25; accidents caused by fire and explosion of combustible material—40; accidents caused by hot substance, corrosive liquid, steam and radiation—4; accidents caused by firearm—11; accidental drowning—45; all other accidents—107; suicide—107; and homicide—26.

Deaths assigned to pneumonia (all forms) numbered 388, the same as for the previous year and the rate was 27 per 100,000 population. Of the total deaths, 231 were male and 157 female.

The number of deaths registered in the cities of the Province were as follows: Calgary, 1,913; Camrose, 191; Drumheller, 48; Edmonton, 1,920; Grande Prairie, 58; Lethbridge, 323; Medicine Hat, 258; Red Deer, 137; Wetaskiwin, 61.

The following table shows the most recent rates of death for Canada, and certain other Countries:

Canada	7.8	Ireland (Republic)	11.8
Newfoundland	6.6	United States	9.6
Prince Edward Island	9.1	Australia	8.7
Nova Scotia	8.4	New Zealand	8.8
New Brunswick	7.8	Denmark	9.8
Quebec	7.0	Finland	9.3
Ontario	8.3	France	11.7
Manitoba	8.3	Italy	10.2
Saskatchewan	8.0	Austria	12.7
Alberta	6.7	Norway	10.0
British Columbia	8.9	Netherlands	8.0
Yukon	5.4	Portugal	10.7
Northwest Territories	11.1	Spain	9.0
England and Wales	12.2	Sweden	10.1
Scotland	12.6	Switzerland	9.6
Northern Ireland	11.0	Western Germany	11.4

MATERNAL DEATHS

There was a gratifying decrease in the number of maternal deaths, 11 were registered in 1963 as compared with 16 in 1962 and the rate declined from 4.1 to 2.9.

MATERNAL DEATH RATES PER 10,000 LIVE BIRTHS

Canada	3.5	Ontario	3.0
Newfoundland	4.5	Manitoba	4.4
Prince Edward Island	10.2	Saskatchewan	3.0
Nova Scotia	1.1	Alberta	2.9
New Brunswick	3.8	British Columbia	2.9
Quebec	4.6		

INFANT DEATHS

There were 908 children who died under the age of one year in 1963, as compared to 984 in the previous year and there was a corresponding decline in the rate from 25.4 to 23.6 per 1,000 live births. Of the total deaths, 535 were males, and 373 females, giving a sex ratio of 1,434 male to 1,000 female deaths. Approximately 85 per cent of the children died in hospital.

INFANT MORTALITY RATES PER 1,000 LIVE BIRTHS

Canada	26.3	Ireland (Republic)	27
Newfoundland	38.3	United States	25
Prince Edward Island	21.4	Australia	20
Nova Scotia	27.0	New Zealand	20
New Brunswick	27.6	Denmark	19
Quebec	30.0	Finland	18
Ontario	22.8	France	26
Manitoba	24.7	Italy	40
Saskatchewan	27.1	Austria	32
Alberta	23.6	Norway	18
British Columbia	23.5	Netherlands	14
Yukon	32.1	Portugal	73
Northwest Territories	104.2	Spain	32
England and Wales	21	Sweden	15
Scotland	26	Switzerland	21
Northern Ireland	27	Western Germany	27

STILLBIRTHS

There were 444 stillbirths registered during the year, 236 male and 208 female giving a sex ratio of 113 male to 100 female stillbirths. This is an increase of 22 over the year 1962 and there was a corresponding increase in the rate from 10.9 to 11.5.

ADMINISTRATION

The Vital Statistics Act, The Solemnization of Marriage Act, and the Regulations providing for the licensing of embalmers are administered by the Director of the Division of Vital Statistics.

Under the provisions of The Vital Statistics Act the administrative procedure necessary for matters of civil registration is provided. There are approximately 170 District Registrars located in the larger centres of the Province, whose duties are to acquire the registration of each vital event (birth, stillbirth, marriage and death) which occurs within their districts for recording and transmission to this Division on a weekly basis. In addition, decrees of dissolution and annulments of marriages, adoptions and legal changes of names are received for recording. All registrations are edited, etc., arranged and bound in a systematic manner and continuous indexes prepared. Certified copies, photocopies of original registrations, certified extracts, certificates and verifications are

issued to applicants or agencies upon receipt of the prescribed fee. Verifications and photocopies of registrations are also supplied free of charge to other government departments and certain authorized agencies.

Listed below is a summary of work processed under the provisions of the Vital Statistics Act during 1963:—

Births registered	38,350
Stillbirths registered	444
Marriages registered	10,163
Deaths registered	9,438
Certificates of birth issued	60,752
Certificates of marriage issued	18,230
Certificates of death issued	5,417
Searches	556
Legal Changes of Name recorded	449
Legal Change of Christian Name recorded	540
Legitimations	210
Delayed Registrations of birth and marriage	925
Adoptions registered	1,504

Under the Solemnization of Marriage Act, the Division provides administrative procedure for the appointment of marriage license issuers, marriage commissioners and the registration of clergymen authorized to perform marriages in the Province. Approximately 145 marriage license issuers are located in the larger centres of the Province, whose duties are to issue marriage licenses and certificates of publication of banns in accordance with the provisions of The Marriage Act.

The following summary shows work processed under the provisions of The Solemnization of Marriage Act during the year 1963:—

Marriage Licenses issued	10,279
Certificates of Publication of Banns	62
Clergymen registered	2,540
Marriage Commissioners registered	13

Under the provisions of the Regulations provided for the licensing of embalmers, the Division licenses embalmers and registers apprentice embalmers. During the year 1963, 195 embalmers were licensed and 13 apprentice embalmers registered.

REVENUE AND EXPENDITURE

For the Fiscal Year ending March 31st, 1964

REVENUE

MARRIAGE ACT

Marriage Licenses	\$ 57,282.50
Publication of Banns	180.00
	<u>\$57,462.50</u>

VITAL STATISTICS ACT

Birth Certificates	\$ 60,840.00
Marriage Certificates	18,417.00
Death Certificates	5,584.00
Certified Copies	1,092.00
Microfilm Transcriptions	5,321.00
Certificates of Authority to Register	1,906.00
Change of Christian Name	527.00
Legitimations	424.00
Embalmers Licenses	975.00
Apprentice Embalmers Licenses	65.00
Sundries	4,458.19
	<u>\$ 99,609.19</u>

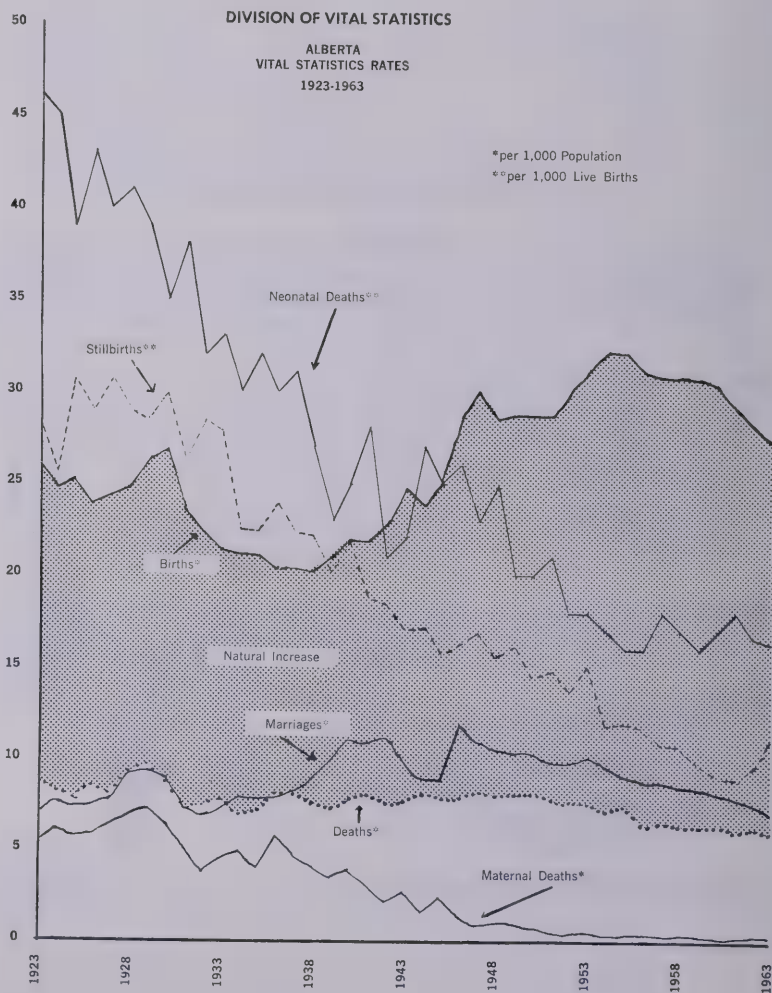
TOTAL REVENUE	<u>\$157,071.69</u>
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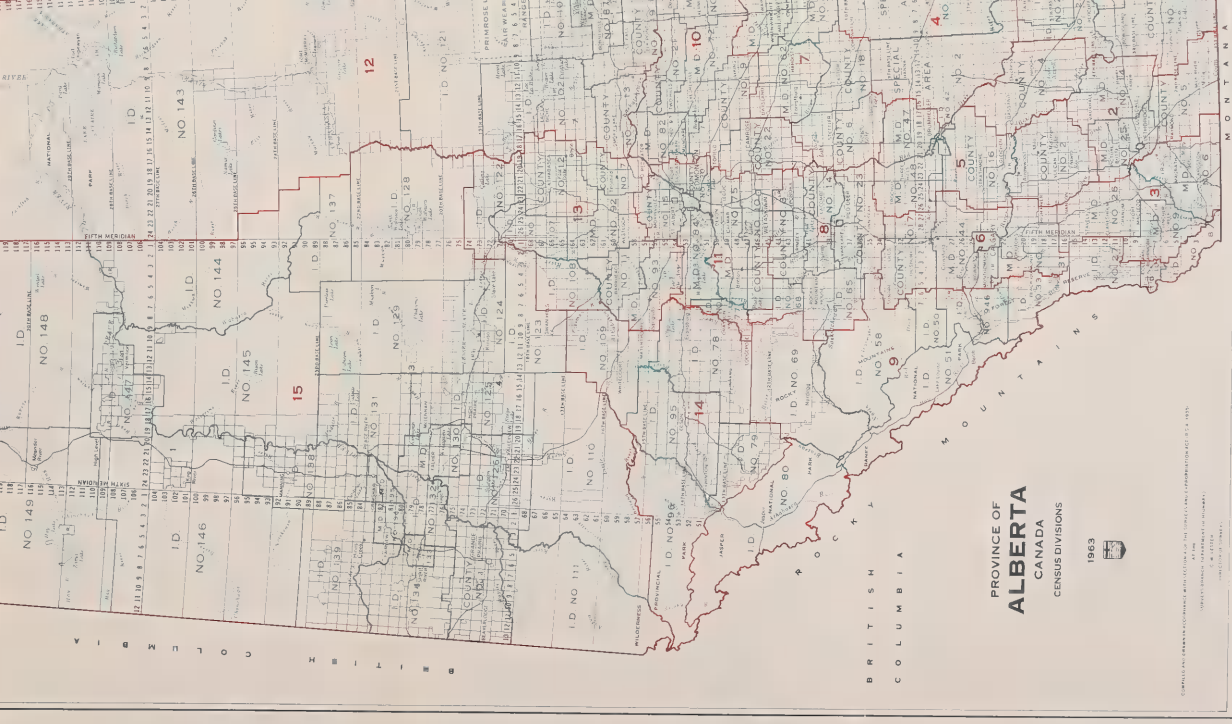
EXPENDITURE

Salaries	\$ 84,739.75
Office Expenditures:	
Printing and Stationery	\$11,612.26
Furnishings, Equipment and Tools	116.50
Freight, Express and Cartage	38.65
Fees and Commissions	9,588.00
Postage	5,606.05
Repairs, Office Furnishings and Equipment	310.22
Repairs, Office Equipment	422.28
Telephones and Telegraphs	62.05
Travelling Subsistence	108.95
	<u>27,864.96</u>

TOTAL EXPENDITURE	<u>\$112,604.71</u>
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SURPLUS REVENUE OVER EXPENDITURE	<u>\$ 44,466.98</u>
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DIVISIONS OF ALBERTA FOR CENSUS AND VITAL STATISTICS PURPOSES

As the Province of Alberta is not completely divided into counties, and the political divisions are not permanently fixed, it has been found advisable to use smaller areas, the Dominion Census Divisions.

Prior to 1956 the Province was divided into 17 census divisions. However, in 1956 the census division boundaries were completely revised and there are now 15 census divisions. These divisions are further sub-divided into municipal areas. The municipal areas which were each originally within the boundaries of a single census division, have been reorganized by the Provincial authorities into larger units, and now, in many cases, part of the new municipality or improvement district is in one census division and part in another.

The following table shows the census divisions, divided into municipalities, improvement districts, cities, towns and villages with the 1961 and 1956 division population figures.

DIVISION OF VITAL STATISTICS

POPULATION OF CENSUS DIVISIONS OF ALBERTA CLASSIFIED BY MUNICIPALITIES
FOR CENSUS YEARS, 1956 and 1961

Division and Subdivision	Total		Division and Subdivision	Total	
	1961	1956		1961	1956
ALBERTA	1,331,944	1,123,116	Division No. 1	38,115	38,120
Division No. 1	39,140	34,496	42. I.D.—D.A.	4,370	5,502
11. I.D.—D.A.	4,228	4,076	47. Starland	2,907	2,831
22. I.D.—D.A.	553	592	48. Kneehill	7,008	7,055
Forty Mile County No. 8	4,716	4,224	Vulcan County No. 2	5,018	5,087
Army Experimental			Wheatland County No. 16	5,570	5,582
Range, I.D.—D.A.—24			Indian Reserves	1,612	1,507
Cities:			Cities:		
Medicine Hat	24,484	20,826	Drumheller	2,931	2,632
Towns:			Towns:		
Bow Island	1,122	1,001	Gleichen	426	581
Irvine	240	232	Strathmore	924	727
Redcliff	2,221	2,001	Three Hills	1,491	1,095
Villages:			Vulcan	1,310	1,204
Burdett	229	225	Villages:		
Foremost	561	456	Acme	328	292
Division No. 2	83,306	74,991	Arrowwood	195	240
14. Taber	7,349	6,730	Carbon	371	354
25. Lethbridge	11,184	11,624	Carmanangay	297	299
Newell County No. 4	6,038	5,943	Champion	419	402
Warner County No. 5	4,991	5,157	Cluny	174	197
Cities:			Craigmyle	107	138
Lethbridge	35,454	29,462	Della	287	282
Towns:			Hussar	213	168
Bassano	815	753	Lomond	244	189
Brooks	2,827	2,320	Milo	167	167
Coaldale	2,592	2,327	Morrin	316	267
Milk River	801	642	Munson	82	82
Picture Butte	978	881	Rockyford	228	226
Raymond	2,362	2,399	Rumsey	123	104
Taber	3,951	3,688	Standard	266	230
Vauxhall	942	713	Trochu	671	680
Villages:			Division No. 6	317,989	237,886
Barons	345	352	31. Foothills	7,896	7,902
Coutts	469		44. Rocky View	10,748	12,788
Duchess	218	177	46. I.D.—D.A.		4,650
Grassy Lake	274	282	Mountain View County		
Nobleford	309	263	No. 17	9,348	9,273
Rosemary	210	158	Indian Reserves	511	478
Stirling	468	430	Cities:		
Tilley	257	240	Calgary	249,641	181,780
Warner	472	450	Towns:		
Division No. 3	30,967	30,426	Black Diamond	1,043	991
6. Cardston	4,905	5,398	Bowness	9,184	6,217
9. Pincher Creek	3,240	3,109	Didsbury	1,254	1,227
26. Willow Creek	4,863	6,344	Forest Lawn	12,263	3,150
Indian Reserves	3,889	3,524	High River	2,276	2,102
Towns:			Montgomery	5,077	
Cardston	2,801	2,607	Okotoks	1,043	764
Claresholm	2,143	2,431	Olds	2,433	1,980
Fort Macleod	2,490	2,103	Sundre	853	923
Granum	290	322	Villages:		
Magrath	1,338	1,382	Airdrie	524	327
Nanton	1,054	1,047	Beiseker	360	321
Pincher Creek	2,961	1,729	Blackie	184	198
Stavely	349	338	Carstairs	665	449
Villages:			Cavley	146	146
Cowley	127	92	Cochrane	857	707
Glenwood	274		Cremona	221	192
Hill Spring	243		Crossfield	593	459
Division No. 4	15,020	14,294	Irricana	167	158
34. Acadia	965	914	Turner Valley	702	704
Special Area No. 2	3,805	3,687	Division No. 7	40,837	40,214
Special Area No. 3	4,994	5,036	52. Provost	3,328	3,621
Towns:			53. Paintearth	3,278	3,515
Hanna	2,645	2,327	61. Wainwright	4,847	4,481
Villages:			62. Flagstaff	6,355	6,806
Cereal	195	154	Stettler County No. 6 ..	5,968	6,061
Chinook	114	154	Buffalo National Park ..		604
Consort	557	434	Towns:		
Empress	405	480	Castor	1,025	958
Oyen	780	562	Coronation	864	784
Veteran	239	241	Daysland	539	499
Youngstown	321	305	Hardisty	582	628
			Provost	1,022	878
			Stettler	3,638	3,359
			Wainwright	3,351	2,653

POPULATION OF CENSUS DIVISIONS OF ALBERTA CLASSIFIED BY MUNICIPALITIES
FOR CENSUS YEARS, 1956 and 1961 (Continued)

Division and Subdivision	Total		Division and Subdivision	Total	
	1961	1956		1961	1956
Div. No. 7—Continued:			Div. No. 10—Continued:		
Villages:			Beaver County No. 9	6,476	6,883
Alliance	291	313	Elk Island N't'l. Park	69	56
Amisk	127	151	Cities:		
Big Valley	461	354	Camrose	6,939	5,817
Botha	112	102	Lloydminster (pt.)	2,944	2,506
Chauvin	395	353	Towns:		
Czar	196	153	Mundare	603	650
Donalda	289	256	Tofield	905	800
Edgerton	295	292	Two Hills	826	713
Forestburg	677	552	Vegreville	2,908	2,574
Gadsby	98	145	Vermilion	2,449	2,196
Galahad	231	215	Viking	1,043	897
Halkirk	172	209	Villages:		
Heilsler	214	.....	Andrew	601	602
Hughenden	294	212	Bashaw	614	597
Irma	425	421	Bawlf	203	287
Killam	552	524	Bittern Lake	76	45
Lougheed	217	201	Bruderheim	299	290
Rochon Sands	28	.....	Chipman	174	192
Sedgewick	655	608	Derwent	281	289
Strome	311	306	Dewberry	179	.....
Division No. 8	76,533	64,168	Edberg	179	167
55. Red Deer	13,477	12,830	Ferintosh	174	195
65. I.D.—D.A.	5,532	5,199	Hairy Hill	173	183
68. I.D.—D.A.	124	81	Hay Lakes	233	193
Ponoka County No. 3	8,688	8,611	Holden	556	544
Lacombe County No. 14	8,725	8,351	Innisfree	291	318
Indian Reserves	1,246	1,230	Kitscoty	326	283
Cities:			Lamont	705	632
Red Deer	19,612	12,338	Lavoy	131	127
Towns:			Mannville	632	599
Innisfail	2,270	1,883	Marwayne	379	337
Lacombe	3,029	2,747	Minburn	164	150
Ponoka	3,938	3,387	Myrnam	441	440
Rimbey	1,266	980	New Norway	263	273
Rocky Mtn. House	2,360	1,285	Ryley	469	495
Sylvan Lake	1,381	1,114	Willington	429	431
Villages:			Division No. 11	410,679	323,539
Alix	631	517	75. Leduc	10,647	11,497
Bentley	588	536	77. I.D.—D.A.	2,384	3,259
Blackfalds	477	340	83. Strathcona	12,075	8,873
Bowden	437	296	84. Stony Plain	9,238	8,491
Caroline	321	296	Wetaskiwin County		
Clive	251	249	No. 10	8,701	9,466
Delburne	450	429	Sturgeon County No. 15	17,837	13,865
Eckville	580	456	Indian Reserves	2,072	1,786
Elnora	214	177	Cities:		
Gull Lake	40	32	Edmonton	281,027	226,002
Mirror	577	591	Wetaskiwin	5,300	4,476
Penhold	319	213	Towns:		
Division No. 9	20,274	17,239	Beverly	9,041	4,602
8. I.D.—D.A.	80	110	Calmar	700	730
10. I.D.—D.A.	1,844	3,269	Devon	1,418	1,429
27. I.D.—D.A.	133	100	Drayton Valley	3,854	2,588
33. I.D.—D.A.	34	47	Fort Saskatchewan	2,972	2,582
50. I.D.—D.A.	41	75	Jasper Place	30,530	15,957
58. I.D.—D.A.	534	429	Leduc	2,356	2,008
69. I.D.—D.A.	505	152	Lodgepole	508	.....
946. I.D.—D.A.	3,076	2,456	Morinville	935	957
Banff National Park	4,101	3,069	St. Albert	4,059	1,320
Banff (not incorp.)	3,429	2,518	Stony Plain	1,311	1,098
Jasper National Park	2,902	2,322	Villages:		
Jasper (not incorp.)	2,360	2,105	Betula Beach	7	.....
Waterton Lakes			Breton	428	.....
National Park	344	277	Crystal Springs	13	.....
Indian Reserves	1,441	1,173	Edmonton Beach	20	.....
Towns:			Entwistle	411	354
Blairmore	1,980	1,973	Gibbons	192	.....
Coleman	1,713	1,566	Itaska Beach	2	2
Villages:			Kapasiwin	12	.....
Bellevue	1,323	.....	Lakeview	12	41
Frank	223	221	Legal	524	457
Ghost Lake	.....	.....	Ma-Me-O Beach	142	137
Division No. 10	70,177	71,500	Millet	403	427
63. Camrose	9,041	9,626	New Sarepta	184	.....
71. Vermilion River	8,862	9,557	Point Allison	6	.....
72. Minburn	6,181	6,742	Saba Beach	113	141
81. Eagle	6,205	7,114	Silver Beach	14	17
82. Lamont	6,754	7,700	Spruce Grove	465	309
			Thorsby	491	411
			Warburg	285	257

POPULATION OF CENSUS DIVISIONS OF ALBERTA CLASSIFIED BY MUNICIPALITIES
FOR CENSUS YEARS, 1956 and 1961 (Continued)

Division and Subdivision	Total		Division and Subdivision	Total	
	1961	1956		1961	1956
Division No. 12	47,310	44,947	Div. No. 14—Continued:		
85. I.D.—D.A.	338	348	Towns:		
86. St. Paul	7,421	7,979	Edson	3,198	2,560
87. Bonnyville	10,209	10,058	Hinton	3,529	.....
101. I.D.—D.A.	1,951	2,039	Villages		
102. I.D.—D.A.	4,840	5,066	Evansburg	452	358
121. I.D.—D.A.	323	197	Whitecourt	1,064	.....
143. I.D.—D.A.	1,650	879	Wildwood	479	547
Smoky Lake County					
No. 13	4,913	5,517			
Wood Buffalo					
National Park	86	143	Division No. 15	76,884	70,417
Indian Reserves	3,229	3,530	110. I.D.—D.A.	552	346
Towns:			111. I.D.—D.A.	353	241
Bonnyville	1,736	1,495	123. I.D.—D.A.	279	2
Cold Lake	1,307	1,097	124. I.D.—D.A.	3,108	3,216
Grand Centre	1,493	.....	125. I.D.—D.A.	3,212	3,155
Lac La Biche	1,314	967	126. I.D.—D.A.	2,579	2,427
McMurray	1,186	1,110	128. I.D.—D.A.	769	947
St. Paul	2,823	2,229	129. I.D.—D.A.	577	877
Villages:			130. Smoky River	4,094	3,955
Bonnyville Beach .....	.....	.....	131. I.D.—D.A.	2,403	2,413
Elk Point	692	594	132. I.D.—D.A.	2,646	3,133
Glendon	315	314	133. Spirit River	1,318	1,413
Smoky Lake	626	563	134. I.D.—D.A.	2,505	2,633
Vilna	400	374	135. Peace	2,053	1,732
Warspite	153	159	136. Fairview	1,917	1,885
Waskatenau	305	289	137. I.D.—D.A.	174	127
			138. I.D.—D.A.	3,194	3,489
Division No. 13	45,431	45,033	139. I.D.—D.A.	2,772	2,635
92. Westlock	7,864	8,731	144. I.D.—D.A.	222	26
93. Lac Ste. Anne	7,151	6,892	145. I.D.—D.A.	144	136
107. I.D.—D.A.	1,571	1,502	146. I.D.—D.A.	662	634
108. I.D.—D.A.	636	781	147. I.D.—D.A.	3,189	2,500
122. I.D.—D.A.	613	557	148. I.D.—D.A.	86	.....
Thorhild County No. 7.	5,096	5,596	149. I.D.—D.A.	339	122
Barrhead County No. 11	5,759	5,944	Grande Prairie		
Athabasca County			County No. 1	8,803	8,899
No. 12	6,792	7,367	Indian Reserves	3,022	3,032
Indian Reserves	432	332	Cities:		
Towns:			Grande Prairie	8,352	6,302
Athabasca	1,487	1,293	Towns:		
Barrhead	2,286	1,610	Beaverlodge	897	768
Mayerthorpe	663	563	Fairview	1,506	1,260
Redwater	1,135	1,065	Fahler	741	802
Westlock	1,838	1,136	Grimshaw	1,095	904
Villages:			High Prairie	1,756	1,743
Alberta Beach	135	127	Manning	896	726
Boyle	346	304	McLennan	1,078	1,092
Castle Island .....	.....	.....	Peace River	2,543	2,034
Clyde	259	221	Spirit River	890	743
Fort Assiniboine	216	.....	Swan Hills	643	.....
Island Lake	12	.....	Valleyview	1,077	973
Onoway	302	190	Villages:		
Radway	183	203	Berwyn	347	342
Sandy Beach	4	.....	Donnelly	289	265
Sangudo	325	331	Girouxville	318	300
Sunset Point	14	.....	Hines Creek	398	360
Thorhild	312	288	Hythe	449	481
			Kinuso	323	306
Division No. 14	19,282	15,846	Nampa	271	.....
78. I.D.—D.A.	3,484	3,444	Rycroft	500	424
79. I.D.—D.A.	667	2,234	Sexsmith	531	345
95. I.D.—D.A.	3,638	4,696	Slave Lake	468	.....
96. I.D.—D.A.	430	314	Wanham	251	.....
109. I.D.—D.A.	2,351	1,693	Wembley	303	272

TABLE 1—GENERAL SUMMARY OF VITAL STATISTICS FOR CENSUS DIVISIONS, ALBERTA, 1963

CENSUS DIVISIONS	LIVE BIRTHS				STILLBIRTHS				INFANT DEATHS												Maternal Deaths	Natural Increase			
	Total	Male	Female	In hospital		Illegitimate		20-27 weeks		28 + weeks		Marriages		Total Deaths	Deaths in Hospital	Total		Neo-natal					Post-neo- natal		
				M	F	M	F	M	F	M	F	M	F			M	F	M	F	M			F		
TOTAL	38467	19761	18706	19545	18485	1365	1376	45	32	191	176	10163	9444	6697	535	373	352	234	36	21	147	118	11	29023	
Division No. 1	937	492	445	484	436	18	22	...	1	1	3	306	317	263	18	9	12	8	...	6	1	6	7	1	620
Division No. 2	2060	1036	1024	1016	1007	40	51	4	1	15	9	579	586	445	24	26	19	18	1	1	4	4	3	1	1474
Division No. 3	858	463	395	451	381	59	69	1	...	9	11	302	209	165	11	7	7	3	...	1	1	4	3	1	649
Division No. 4	333	166	167	166	163	5	2	1	101	104	76	3	5	2	2	1	3	...	229
Division No. 5	918	478	440	470	436	29	33	2	...	4	2	185	314	221	15	13	8	5	1	...	6	6	...	604	
Division No. 6	9368	4784	4584	4761	4560	364	357	13	5	42	38	2390	2294	1528	117	71	86	46	5	6	26	19	3	7074	
Division No. 7	1084	564	520	560	516	15	16	1	...	7	5	237	330	250	14	5	10	12	2	1	13	8	1	754	
Division No. 8	2389	1233	1156	1227	1149	86	94	1	2	11	9	599	606	449	38	22	23	13	2	1	13	8	1	1783	
Division No. 9	431	208	223	197	214	26	27	1	1	1	4	141	175	128	8	8	4	6	1	...	3	2	...	256	
Division No. 10	1588	823	765	821	764	30	24	1	1	8	5	504	670	414	25	13	16	9	...	1	6	3	2	918	
Division No. 11	12411	6411	6000	6406	5986	431	422	15	13	61	54	3614	2615	1925	148	113	110	77	3	29	33	1	9796		
Division No. 12	1626	811	815	777	787	85	62	1	2	6	16	305	325	215	143	13	21	16	5	3	17	8	...	1301	
Division No. 13	1089	584	515	580	510	37	38	...	2	1	3	258	320	232	19	4	8	7	...	1	4	2	2	...	779
Division No. 14	594	300	294	286	18	14	...	...	1	1	3	97	91	57	9	4	7	2	...	...	2	2	...	503
Division No. 15	2771	1408	1363	1335	1250	122	145	3	4	16	11	545	488	329	48	44	20	22	5	3	23	13	2	2283	

TABLE 2—GENERAL SUMMARY OF VITAL STATISTICS FOR INCORPORATED URBAN PLACES OF 1,000 POPULATION AND OVER, ALBERTA, 1963

CITY, TOWN OR VILLAGE	LIVE BIRTHS						STILLBIRTHS						Deaths in Hospital		INFANT DEATHS				Maternal deaths	Natural Increase	
	Total	Male	Female	In hospital		Illegitimate		20-27 weeks	28 + weeks	Total		Under 7 days			7-27 days		Post-neo-natal				
				M	F	M	F					M	F	M	F	M	F	M			F
Athabasca	52	28	24	28	24	5	4	23	19	2	1	1	1	1	1	1	1	29			
Barhead	76	40	36	40	36	1	2	32	29	3	3	1	1	1	1	1	1	44			
Belleue	24	14	10	14	10	1	1	10	13	1	1	1	1	1	1	1	1	15			
Black Diamond	23	6	17	6	17	4	3	11	11	1	3	1	3	1	3	1	1	12			
Blairmore	44	25	19	25	19	5	3	12	28	15	1	1	1	1	1	1	1	21			
Bonnyville	100	42	58	42	58	5	3	28	28	3	3	1	3	1	3	1	1	72			
Bow Island	31	19	12	19	12	1	1	16	15	1	1	1	1	1	1	1	1	16			
Bowness	262	135	127	135	124	7	11	51	27	8	1	6	4	2	2	1	1	211			
Brooks	76	37	39	37	39	2	2	41	23	2	1	1	1	1	1	1	1	47			
Calgary	8079	4159	3920	4145	3912	338	327	1913	1281	96	63	71	41	3	5	22	17	36166			
Camrose	219	113	106	113	106	5	4	171	191	2	1	1	1	1	1	1	1	28			
Carleton Place	98	49	49	49	48	7	13	7	15	1	1	1	1	1	1	1	1	14			
Castor	29	14	15	14	15	1	1	14	22	2	1	1	1	1	1	1	1	15			
Clareholm	39	20	19	20	19	1	1	30	24	2	1	1	1	1	1	1	1	14			
Coldale	54	32	22	32	22	4	1	38	32	2	1	1	1	1	1	1	1	54			
Cold Lake	70	37	33	37	33	4	2	21	10	8	3	1	1	1	1	1	1	60			
Coleman	62	21	41	20	41	1	3	20	25	18	1	1	1	1	1	1	1	37			
Devon	26	15	11	15	11	1	1	4	10	4	1	1	1	1	1	1	1	16			
Didsbury	47	20	27	19	27	2	4	18	9	6	1	1	1	1	1	1	1	38			
Drayton Valley	143	70	73	70	73	2	4	25	9	7	2	1	1	1	1	1	1	71			
Drumheller	129	65	64	65	64	6	4	36	30	1	1	1	1	1	1	1	1	15			
Edmonton	8750	4488	4262	4487	4255	330	329	1920	1486	111	67	87	47	4	1	20	19	6830			
Edson	108	58	50	58	50	2	1	44	22	4	1	1	1	1	1	1	1	81			
Fairview	46	25	21	25	21	1	1	30	15	12	4	1	1	1	1	1	1	31			
Fort Macleod	85	30	55	30	55	2	1	30	27	15	2	1	1	1	1	1	1	38			
Fort Saskatchewan	87	49	38	49	38	2	1	17	15	12	2	1	1	1	1	1	1	38			
Grande Centre	116	58	58	58	58	2	1	8	4	4	3	1	1	1	1	1	1	72			
Grande Prairie	372	197	175	197	175	10	8	135	58	44	6	5	3	3	1	2	2	108			
Grimshaw	65	41	24	41	24	1	1	10	11	7	2	1	1	1	1	1	1	314			
Hanna	65	41	24	41	24	1	1	20	25	18	3	2	2	1	1	1	1	43			
High Prairie	111	49	62	49	62	7	10	1	50	39	2	1	1	1	1	1	1	30			
High River	42	21	21	21	21	2	3	27	36	4	1	2	2	1	1	1	1	86			
High River	132	66	66	66	65	2	2	26	6	4	1	2	2	1	1	1	1	126			
Hinton	98	53	47	53	47	3	4	32	36	32	5	4	4	2	2	3	1	62			
Innisfail	1177	597	580	597	579	33	42	64	150	95	10	12	10	9	2	1	3	1027			
Jasper Place	79	34	45	34	45	14	8	28	23	3	3	2	2	1	1	1	1	56			
Lac La Biche	102	52	50	52	50	1	1	46	45	4	1	1	1	1	1	1	1	57			

[illegible]

TABLE 3—DEATHS BY PLACE OF OCCURRENCE AND PLACE OF RESIDENCE, 1963

PLACE OF OCCURRENCE	Total (Occurrence)	PLACE OF RESIDENCE													
		Nfld.	P.E.I.	N.S.	N.B.	Quebec	Ontario	Manitoba	Sask.	Alberta	B.C.	Yukon	N.W.T.	U.S.A.	Other
Total Residence	148204	3183	979	6367	4815	38217	53617	7928	7441	9444	15029	81	266	725	112
Newfoundland	3185	3151	.....	1	1	11	5	.....	.....	.....	.....	.....	.....	6	10
Prince Edward Island	984	.....	962	5	2	1	10	.....	1	1	.....	.....	.....	28	.....
Nova Scotia	6366	7	8	6279	16	7	13	.....	2	2	1	.....	.....	64	3
New Brunswick	4864	1	4	21	4722	45	7	.....	.....	.....	.....	.....	.....	95	49
Quebec	38166	4	1	10	24	37690	270	8	1	3	7	.....	4	95	49
Ontario	53850	15	3	23	17	322	52929	52	23	12	17	1	3	399	34
Manitoba	7969	.....	.....	.....	2	3	62	7778	63	10	8	.....	14	28	1
Saskatchewan	7392	.....	.....	1	.....	1	9	24	7261	58	24	.....	14	14	.....
Alberta	9438	1	.....	1	2	3	14	13	48	9261	58	2	14	13	8
British Columbia	15061	1	.....	1	3	3	25	12	19	66	14844	5	1	74	7
Yukon	86	.....	.....	.....	.....	.....	.....	2	2	3	4	73	.....	2	.....
Northwest Territories	237	.....	.....	1	.....	2	2	.....	.....	2	.....	230	.....	.....	.....
United States	606	3	1	24	26	129	271	39	21	26	66	.....	.....	.....	.....

TABLE 4—DEATHS AND HOSPITAL DEATHS BY OCCURRENCE AND RESIDENCE FOR CENSUS DIVISIONS, ALBERTA, 1963

CENSUS DIVISIONS	TOTAL DEATHS				DEATHS IN HOSPITAL			
	Total by Occurrence	Total by Residence	By Occurrence; Residence Elsewhere	By Residence; Occurrence Elsewhere	Total by Occurrence	Total by Residence	By Occurrence; Residence Elsewhere	By Residence; Occurrence Elsewhere
ALBERTA	9438	9444	177	183	6702	6697	113	108
Division No. 1	299	317	13	31	246	263	9	26
Division No. 2	560	586	41	67	429	445	35	51
Division No. 3	210	209	46	45	157	165	27	35
Division No. 4	100	104	15	19	71	76	11	16
Division No. 5	228	314	15	101	138	221	6	89
Division No. 6	2385	2294	238	147	1640	1528	199	87
Division No. 7	293	330	28	65	213	250	21	58
Division No. 8	611	606	108	103	455	449	91	85
Division No. 9	165	175	31	41	104	128	12	36
Division No. 10	602	670	57	125	340	414	40	114
Division No. 11	2945	2615	472	142	2280	1925	453	78
Division No. 12	268	325	21	78	159	215	14	70
Division No. 13	271	320	43	92	173	232	27	86
Division No. 14	59	91	11	43	23	57	3	37
Division No. 15	442	488	31	77	274	329	15	70

TABLE 5—DEATHS AND HOSPITAL DEATHS BY OCCURRENCE AND RESIDENCE
IN URBAN PLACES OF 1,000 POPULATION AND OVER, ALBERTA, 1963

CITY, TOWN OR VILLAGE	TOTAL DEATHS				DEATHS IN HOSPITAL			
	Total by Occurrence	Total by Residence	By Occurrence; Residence Elsewhere	By Residence; Occurrence Elsewhere	Total by Occurrence	Total by Residence	By Occurrence; Residence Elsewhere	By Residence; Occurrence Elsewhere
Athabasca	43	23	25	5	37	19	23	5
Barrhead	52	32	27	7	48	29	26	7
Bellevue	4	19	1	16	.....	15	.....	15
Black Diamond	2	11	.....	9	.....	8	.....	8
Blairmore	4	23	1	20	1	18	1	18
Bonnyville	33	28	15	10	31	25	15	9
Bow Island	12	15	3	6	9	11	2	4
Bowness	17	51	.....	34	.....	27	.....	27
Brooks	47	29	20	2	41	23	20	2
Calgary	2076	1913	310	147	1468	1281	273	86
Camrose	243	191	58	6	88	42	50	4
Cardston	35	27	14	6	31	22	13	4
Castor	19	15	10	6	19	15	10	6
Claresholm	47	24	29	6	44	22	28	6
Coaldale	21	32	2	13	19	22	2	5
Cold Lake	21	10	14	3	19	8	13	2
Coleman	4	25	.....	21	.....	18	.....	18
Devon	3	10	.....	7	1	4	.....	3
Didsbury	20	9	12	1	16	6	11	1
Drayton Valley	19	9	14	4	17	7	14	4
Drumheller	82	48	43	9	74	39	43	8
Edmonton	2441	1920	702	181	2045	1486	674	115
Edson	21	22	10	11	18	17	9	8
Fairview	34	15	20	1	30	12	19	2
Fort Macleod	39	27	16	4	28	15	15	2
Fort Saskatchewan	2	15	.....	13	.....	12	.....	12
Grand Centre	2	8	.....	6	.....	4	.....	4
Grande Prairie	94	58	40	4	81	44	39	2
Grimshaw	4	11	.....	7	.....	7	.....	7
Hanna	52	35	24	7	43	24	23	4
High Prairie	40	25	25	10	36	18	24	6
High River	65	50	23	8	54	39	22	7
Hinton	6	6	4	4	5	4	.....	3
Innisfail	49	36	19	6	45	32	19	6
Jasper Place	52	150	5	108	.....	95	.....	95
Lac La Biche	27	23	13	9	24	20	12	8
Lacombe	67	45	28	6	62	41	27	6
Leduc	22	20	7	5	11	13	3	5
Lethbridge	347	323	65	41	276	246	62	32
Lloydminster	8	18	6	16	6	16	6	16
Magrath	12	12	1	1	11	11	1	1
McLennan	22	5	17	.....	21	4	17	.....
McMurray	8	6	2	.....	5	3	2	.....
Medicine Hat	279	258	40	19	237	217	36	16
Montgomery	18	25	1	8	1	9	.....	8
Nanton	3	13	1	11	.....	10	.....	10
Okotoks	2	6	.....	4	.....	4	.....	4
Olds	65	39	31	5	59	33	30	4
Peace River	14	18	10	14	12	16	8	12
Pincher Creek	35	23	17	5	32	19	17	4
Ponoka	126	45	91	10	120	39	90	9
Provost	31	8	26	3	27	7	23	3
Raymond	27	23	9	5	23	19	8	4
Redcliff .....	.....	11	.....	11	.....	10	.....	10
Red Deer	171	137	51	17	138	103	48	13
Redwater	3	7	1	5	.....	4	.....	4
Rimbey	30	21	14	5	24	14	12	2
Rocky Mountain House	33	38	9	14	23	26	7	10
St. Albert	61	72	3	14	.....	13	.....	13
St. Paul	34	24	17	7	29	17	16	4
Stettler	53	31	33	11	50	25	33	8
Stony Plain	9	21	3	15	3	15	1	13
Sylvan Lake	6	20	1	15	.....	14	.....	14
Taber	50	37	16	3	48	35	16	3
Three Hills	14	12	7	5	14	12	7	5
Valleyview	5	14	2	11	.....	9	.....	9
Vegreville	52	42	18	8	45	35	17	7
Vermillion	33	28	12	7	28	24	11	7
Viking	20	10	12	2	19	9	12	2
Vulcan	20	17	12	9	17	11	12	6
Wainwright	42	37	15	10	36	29	14	7
Westlock	61	28	36	3	55	22	35	2
Wetaskiwin	82	61	36	15	68	48	33	13
Whitecourt	1	8	.....	7	.....	6	.....	6

DIVISION OF VITAL STATISTICS

TABLE 6—CAUSE OF DEATH BY SEX FOR CENSUS DIVISIONS
(INCLUDING CITIES, TOWNS AND VILLAGES) IN ALBERTA, 1963

[illegible]

TABLE 6—CAUSE OF DEATH BY SEX FOR CENSUS DIVISIONS
(INCLUDING CITIES, TOWNS AND VILLAGES) IN ALBERTA, 1963—Continued

CAUSE OF DEATH (Intermediate List) (7th Rev.)	SEX	Total	Division No.													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14
A 80 Chronic rheumatic heart disease	Male	36	2	6	1	...	...	1	1	1	...	10	1	...	...	2
	Female	56	2	6	1	2	1	11	...	3	1	22	2	...	...	3
A 81 Arteriosclerotic and degenerative heart disease	Male	1752	55	115	36	31	74	312	81	123	37	120	527	55	74	88
	Female	788	42	58	15	10	16	176	28	47	13	75	232	18	25	26
A 82 Other diseases of heart	Male	81	1	7	3	3	3	20	5	4	6	11	5	6	...	...
	Female	69	...	6	3	1	...	22	6	3	6	5	12	2	2	1
A 83 Hypertension with heart disease	Male	50	1	3	...	...	1	13	...	4	...	5	15	3	1	3
	Female	58	3	2	1	...	2	10	2	2	1	8	19	2	3	1
A 84 Hypertension without mention of heart	Male	16	1	...	...	...	1	6	...	...	...	...	5	3	...	...
	Female	22	1	2	1	...	1	8	...	2	...	...	4	2	...	1
A 85 Diseases of arteries	Male	110	3	10	4	1	9	22	2	7	3	5	37	...	1	5
	Female	93	8	5	5	...	4	24	3	4	1	5	30	...	2	2
A 86 Other diseases of circulatory system	Male	26	1	1	...	...	...	8	2	...	...	2	8	...	1	3
	Female	20	3	2	1	...	...	5	...	2	...	3	2	1	...	...
VIII. DISEASES OF THE RESPIRATORY SYSTEM	Total	670	22	32	11	3	18	132	17	43	11	100	178	21	13	64
	Male	436	14	26	10	3	15	84	9	24	7	63	111	13	10	43
	Female	234	8	6	1	...	3	48	8	19	4	37	67	8	3	21
A 87 Acute upper respiratory infections	Male	3	...	...	...	...	...	...	...	...	...	2	1	...	...	...
	Female	2	...	...	...	...	...	...	...	...	...	1	...	...	...	...
A 88 Influenza	Male	31	1	...	...	1	1	5	...	...	...	7	3	3	...	10
	Female	37	...	1	...	...	1	2	1	3	1	9	7	1	2	9
A 89 Lobar pneumonia	Male	21	...	1	1	...	2	4	...	5	1	...	3	1	...	1
	Female	13	...	...	...	...	...	4	...	3	...	2	...	...	...	...
A 90 Bronchopneumonia	Male	145	3	5	4	1	5	18	2	6	1	40	31	5	2	20
	Female	110	5	3	1	...	1	25	1	7	2	22	30	5	...	1
A 91 Primary atypical, other and unspecified pneumonia	Male	65	1	5	2	1	1	11	1	4	...	4	26	2	2	4
	Female	34	1	1	...	...	...	6	2	4	1	2	15	...	1	1
A 92 Acute bronchitis	Male	4	...	...	...	...	...	...	...	1	...	...	3	...	...	...
	Female	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...
A 93 Bronchitis, chronic and unqualified	Male	63	2	3	1	...	...	21	2	2	1	5	21	...	4	1
	Female	6	...	...	...	...	...	2	1	...	...	...	2	1	...	...
A 94 Hypertrophy of tonsils and adenoids	Male	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...
	Female	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A 95 Empyema and abscess of lung	Male	6	1	...	...	...	...	...	...	...	...	1	3	...	...	1
	Female	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A 96 Pleurisy	Male	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
	Female	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A 97 All other respiratory diseases	Male	98	6	12	2	...	6	25	4	6	4	4	20	2	2	5
	Female	29	2	1	...	...	1	7	3	1	...	2	8	1	...	3
IX. DISEASES OF THE DIGESTIVE SYSTEM	Total	354	18	20	10	4	12	76	9	27	8	28	88	17	14	23
	Male	222	9	15	5	1	5	54	8	13	4	20	53	10	11	14
	Female	132	9	5	5	3	7	22	1	14	4	8	35	7	3	9
A 99 Ulcer of stomach	Male	18	1	1	...	...	...	6	...	1	...	2	5	1	1	...
	Female	7	1	...	...	...	1	2	...	...	...	1	2	...	...	...
A100 Ulcer of duodenum	Male	37	1	4	...	...	...	11	2	2	...	4	11	1	...	1
	Female	2	1	...	...	...	...	...	1	...	...	...	...	...	...	...
A101 Gastritis and duodenitis	Male	2	...	...	...	...	...	1	...	1	...	...	...	...	...	...
	Female	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...
A102 Appendicitis	Male	10	...	...	...	...	...	4	1	1	...	...	2	...	...	2
	Female	2	...	...	...	...	...	...	...	...	...	...	1	1	...	...
A103 Intestinal obstruction and hernia	Male	27	4	1	...	1	2	5	...	1	1	4	5	...	1	2
	Female	22	1	...	1	...	...	5	...	2	1	2	8	...	2	...
A104 Gastro-enteritis and colitis, except diarrhoea of the newborn	Male	34	...	1	2	...	...	5	1	2	...	1	6	5	5	6
	Female	29	...	...	4	1	2	3	...	4	...	...	5	4	1	5
A105 Cirrhosis of liver	Male	44	2	2	1	...	2	14	1	1	2	3	11	2	1	2
	Female	17	3	...	...	...	1	5	...	2	...	...	6	...	...	...
A106 Cholelithiasis and cholecystitis	Male	18	...	5	...	...	...	2	1	2	...	1	4	1	2	...
	Female	26	2	4	...	2	...	2	...	2	2	2	7	...	...	3
A107 Other diseases of digestive system	Male	32	1	1	2	...	1	6	2	2	1	5	9	...	1	1
	Female	26	1	1	...	2	5	1	3	1	...	3	6	2	...	1
X. DISEASES OF THE GENITO-URINARY SYSTEM	Total	141	7	15	3	1	4	36	10	5	6	27	4	7	2	4
	Male	92	6	11	2	1	3	22	6	6	3	5	18	2	2	3
	Female	49	1	4	1	...	1	14	4	4	2	1	9	2	5	1
A109 Chronic, other and unspecified nephritis	Male	31	1	3	...	...	2	9	1	3	...	1	7	1	...	1
	Female	25	...	1	...	...	1	8	3	2	1	1	3	1	4	...
A110 Infections of kidney	Male	23	1	3	...	1	...	6	1	2	1	1	7	...	...	...
	Female	17	1	3	1	...	...	3	1	2	...	...	5	...	...	1
A111 Calculi of urinary system	Male	4	...	...	...	...	...	1	1	...	...	...	2	...	...	...
	Female	2	...	...	...	...	...	1	...	...	...	...	...	1	...	...
A112 Hyperplasia of prostate	Male	24	4	3	1	...	1	5	2	1	2	1	1	...	1	2
A114 Other diseases of genito-urinary system	Male	10	...	2	1	...	...	1	1	...	...	2	1	1	1	...
	Female	5	...	...	...	...	...	2	...	...	1	...	1	1	...	...

TABLE 6—CAUSE OF DEATH BY SEX FOR CENSUS DIVISIONS
(INCLUDING CITIES, TOWNS AND VILLAGES) IN ALBERTA, 1963—Continued

CAUSE OF DEATH (Intermediate List) (7th Rev.)	SEX	Total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
			Division No.	Division No.	Division No.	Division No.	Division No.	Division No.	Division No.	Division No.	Division No.	Division No.	Division No.	Division No.	Division No.	Division No.	Division No.
XI. DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM	Total	11	....	1	1	....	....	3	....	1	....	2	1	....	....	....	2
A116 Toxaemias of pregnancy and the puerperium	Female	3	....	....	....	....	....	2	....	1	....	....	....	....	....	....	....
A117 Haemorrhage of pregnancy and childbirth	Female	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....
A119 Abortion with sepsis	Female	4	....	....	1	....	....	1	....	....	....	1	....	....	....	....	1
A120 Other complications of pregnancy, childbirth and the puerperium	Female	3	....	....	....	....	....	....	....	....	....	1	1	....	....	....	1
XII. DISEASES OF THE SKIN AND MUSCULOSKELETAL SYSTEM	Total	34	1	2	1	....	4	6	....	1	....	3	11	1	2	....	2
	Male	19	1	2	....	....	2	2	....	1	....	2	7	1	....	....	1
	Female	15	....	....	1	....	2	4	....	....	....	1	4	....	2	....	1
A121 Infections of skin and subcutaneous tissue	Male	2	....	....	....	....	....	....	....	....	....	1	....	1	....	....	....
	Female	1	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....
A122 Arthritis and spondylitis	Male	2	....	....	....	....	1	....	....	....	....	....	....	....	....	....	1
	Female	6	....	....	....	....	1	1	....	....	....	1	2	....	1	....	....
A123 Muscular rheumatism and rheumatism unspecified	Male	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....
	Female	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
A124 Osteomyelitis and periostitis	Male	1	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....
	Female	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
A125 Ankylosis and acquired musculoskeletal deformities	Male	1	....	1	....	....	....	1	....	....	....	....	....	....	....	....	....
	Female	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
A126 All other diseases of skin and musculoskeletal system	Male	13	1	....	....	....	1	2	....	1	....	1	7	....	....	....	....
	Female	6	....	....	1	....	1	1	....	....	....	1	1	....	1	....	1
XIV. CONGENITAL MALFORMATIONS	Total	179	10	12	1	....	8	44	5	14	3	3	53	4	4	4	14
	Male	87	7	5	1	....	3	23	2	8	....	1	21	3	3	2	8
	Female	92	3	7	....	....	5	21	3	6	3	2	32	1	1	2	6
A127 Spina bifida and meningocele	Male	4	....	....	....	....	....	1	....	....	....	....	3	....	....	....	....
	Female	13	....	1	....	....	1	1	1	....	....	....	7	....	....	....	2
A Without hydrocephalus	Male	1	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....
	Female	3	....	....	....	....	....	....	....	....	....	....	2	....	....	....	1
B With hydrocephalus	Male	3	....	....	....	....	....	1	....	....	....	....	2	....	....	....	....
	Female	10	....	1	....	....	1	1	1	....	....	....	5	....	....	....	1
A128 Congenital malformations of circulatory system	Male	43	3	2	1	....	1	14	....	5	....	1	8	2	1	1	4
	Female	40	1	4	....	....	4	11	....	2	2	....	12	....	....	....	3
A129 All other congenital malformations	Male	40	4	3	....	....	2	8	2	3	....	....	10	1	2	1	4
	Female	39	2	2	....	....	9	2	4	1	2	13	1	1	1	....	1
XV. CERTAIN DISEASES OF EARLY INFANCY	Total	546	14	35	11	3	11	120	13	31	11	25	170	42	12	7	41
	Male	335	8	18	7	....	7	79	10	19	6	17	105	25	8	5	21
	Female	211	6	17	4	3	4	41	3	12	5	8	65	17	4	2	20
A130 Birth injuries	Male	47	1	3	1	....	1	14	2	2	....	....	13	4	2	....	4
	Female	24	....	3	1	1	....	2	....	....	3	4	7	....	1	....	2
A131 Postnatal asphyxia and atelectasis	Male	86	5	3	2	....	2	20	2	5	....	7	29	1	1	2	7
	Female	48	4	2	....	....	....	8	1	3	....	1	17	6	....	....	5
A132 Infections of the newborn	Male	21	....	1	....	....	....	3	2	2	....	2	7	3	1	....	....
	Female	14	1	2	....	....	....	4	1	1	....	....	2	....	....	....	1
A133 Haemolytic disease of newborn	Male	11	....	....	....	....	....	2	....	1	1	1	4	....	....	....	1
	Female	10	....	2	....	....	....	3	....	....	....	1	4	....	....	....	....
A134 All other defined diseases of early infancy	Male	10	1	....	1	....	....	1	....	1	....	1	1	3	....	....	1
	Female	4	....	....	....	....	....	1	....	....	1	....	1	....	....	....	1
A135 Ill-defined diseases peculiar to early infancy, and immaturity unqualified	Male	160	1	11	3	....	4	39	4	8	5	6	51	13	4	3	8
	Female	111	1	8	3	2	4	23	1	8	1	2	34	9	2	2	11
XVI. SYMPTOMS, SENILITY, AND ILL-DEFINED CONDITIONS	Total	345	2	2	3	....	5	251	6	3	3	18	37	5	2	3	5
	Male	244	1	2	3	....	4	183	5	2	2	9	22	3	1	3	4
	Female	101	1	....	....	....	1	68	1	1	1	9	15	2	....	....	1
A136 Senility without mention of psychosis	Male	71	....	....	2	....	....	55	....	....	....	....	12	....	....	....	1
	Female	39	1	....	....	....	....	1	25	1	....	1	7	....	....	....	1
A137 Ill-defined and unknown causes	Male	173	1	2	1	....	4	128	5	2	2	9	10	3	....	3	3
	Female	62	....	....	....	....	....	43	....	1	....	8	8	1	1	....	....
EXVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO EXTERNAL CAUSE)	Total	893	21	50	24	11	27	170	35	62	17	58	241	48	41	11	77
	Male	687	16	39	17	10	22	133	27	50	13	43	179	40	30	9	59
	Female	206	5	11	7	1	5	37	8	12	4	15	62	8	11	2	18
AE138 Motor vehicle accidents	Male	268	5	9	8	4	8	56	16	21	6	14	73	18	8	6	14
	Female	82	1	9	5	....	1	17	2	4	2	6	22	3	2	2	6

DIVISION OF VITAL STATISTICS

TABLE 6—CAUSE OF DEATH BY SEX FOR CENSUS DIVISIONS
(INCLUDING CITIES, TOWNS AND VILLAGES) IN ALBERTA, 1963—Continued

CAUSE OF DEATH (Intermediate List) (7th Rev.)	SEX	Total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
			Division No.	Division No.	Division No.	Division No.	Division No.	Division No.	Division No.	Division No.	Division No.	Division No.	Division No.	Division No.	Division No.	Division No.	Division No.
A Traffic accidents (810-825)	Male	261	5	9	8	4	8	55	16	19	6	14	71	18	7	6	15
	Female	78	1	7	4	...	1	17	2	4	2	6	21	3	2	2	6
B Non-traffic accidents	Male	7	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1
	Female	4	...	2	1	...	...	...	2	...	...	...	...	...	...	...	...
AE139 Other transport accidents	Male	37	2	1	...	...	2	10	...	1	1	...	8	7	2	...	2
	Female	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
A Drowning involving small boats (850)	Male	12	...	...	...	...	...	2	...	...	...	...	4	3	2	...	1
	Female	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
C Other transport	Male	25	2	1	1	...	2	8	...	1	1	...	4	4	...	...	1
	Female	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
AE140 Accidental poisoning	Male	33	1	2	...	...	...	7	2	2	...	...	11	2	...	...	2
	Female	8	...	...	...	...	...	1	...	...	...	1	5	1	...	...	...
AE141 Accidental falls	Male	61	...	4	1	...	1	13	3	3	...	8	20	3	1	...	4
	Female	38	2	1	1	...	1	6	4	4	1	3	10	1	2	...	2
AE142 Accident caused by machinery	Male	25	2	1	...	2	1	4	...	3	...	1	2	2	2	...	5
	Female	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
AE143 Accident caused by fire and explosion of combustible material	Male	28	...	3	...	...	3	2	2	...	...	1	6	1	3	...	7
	Female	12	...	...	...	...	2	2	...	...	...	...	1	...	3	...	4
AE144 Accident caused by hot substance, corrosive liquid, steam, and radiation	Male	3	...	...	...	...	...	1	1	...	...	1	...	...	...	...	...
	Female	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
AE145 Accident caused by firearm	Male	8	...	...	...	...	...	1	1	2	...	1	1	...	1	...	1
	Female	3	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...
AE146 Accidental drowning	Male	37	1	5	...	...	1	5	...	2	2	2	9	1	4	1	4
	Female	8	...	...	1	...	...	2	...	...	...	1	1	1	1	...	1
AE147 All other accidental causes	Male	85	3	5	4	1	3	11	...	8	3	6	24	4	4	...	9
	Female	22	2	...	...	...	...	1	...	2	1	2	8	1	2	...	3
All accidental causes	Male	585	14	30	14	7	19	110	25	42	12	38	154	38	25	7	50
	Female	175	5	10	7	1	4	29	7	11	4	13	48	7	10	2	17
AE148 Suicide	Male	92	2	7	3	3	2	21	2	8	1	5	23	2	5	2	6
	Female	15	...	...	...	...	1	2	...	1	...	2	7	...	1	...	1
AE149 Homicide and injury purposely inflicted by other persons (not in war)	Male	10	...	2	...	...	1	2	...	...	...	...	2	...	...	...	3
	Female	16	...	...	...	...	...	6	1	...	...	...	7	1	...	...	...
AN138 Fracture of skull	Male	146	4	6	4	4	3	38	5	10	4	4	41	10	2	3	8
	Female	38	...	3	1	...	2	8	2	3	...	...	13	...	1	2	3
AN139 Fracture of spine and trunk	Male	30	1	...	2	...	2	4	3	1	...	7	5	1	1	...	3
	Female	10	...	1	...	...	...	4	...	...	1	1	1	1	...	...	1
AN140 Fracture of limbs	Male	39	...	3	...	...	...	11	2	1	...	4	8	3	2	1	4
	Female	31	1	1	1	...	...	3	4	3	1	5	7	1	2	...	2
AN143 Head injury (excluding fracture)	Male	96	1	4	5	1	...	18	5	14	3	6	19	4	7	2	7
	Female	30	1	3	1	...	1	6	2	...	...	2	9	1	2	...	2
AN144 Internal injury of chest, abdomen, and pelvis	Male	143	2	6	3	1	6	30	7	10	1	7	44	7	3	1	15
	Female	34	1	3	3	...	...	7	...	2	1	2	12	2	...	...	1
AN145 Laceration and open wounds	Male	17	...	3	1	...	...	3	...	2	...	...	4	1	1	...	2
	Female	4	...	...	1	...	...	2	...	...	...	...	1	...	...	...	...
AN146 Superficial injury, contusion and crushing with intact skin surface	Male	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Female	2	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...
AN147 Effects of foreign body entering through orifice	Male	25	2	2	...	1	3	2	...	2	1	2	8	1	...	...	1
	Female	4	2	...	...	...	...	...	...	...	...	...	2	...	...	...	...
AN148 Burns	Male	34	...	3	...	...	...	4	3	3	...	2	7	1	4	1	6
	Female	13	...	...	...	...	2	2	...	...	...	2	2	...	3	...	4
AN149 Effects of poisons	Male	55	2	3	...	2	1	12	2	4	...	6	16	4	...	...	3
	Female	13	...	...	...	...	1	1	...	...	...	2	8	1	...	...	...
AN150 All other and unspecified effects of external causes	Male	102	4	9	2	1	3	12	...	6	4	5	27	8	10	1	10
	Female	27	...	1	...	...	...	3	...	2	1	3	7	2	3	...	5

TABLE 7—CAUSE OF DEATH BY SEX, RURAL AND URBAN AND FOR URBAN PLACES OF 5,000 POPULATION AND OVER IN ALBERTA, 1963

CAUSE OF DEATH (Intermediate List) (7th Rev.)	SEX															
		Total	Bowness	Calgary	Camrose	Edmonton	Grande Prairie	Jasper Place	Lethbridge	Medicine Hat	Red Deer	Wetaskiwin	Montgomery	Tl. urban places 5000 + population	Residual (rural)	Other urban places 1000-4999 pop.
ALL CAUSES	Total	9444	51	1913	191	1920	58	150	323	258	137	61	25	5087	2936	1421
	Male	5927	32	1166	113	1199	40	82	189	140	71	34	14	5080	1966	881
	Female	3517	19	747	78	721	18	68	134	118	66	27	11	2007	970	540
I. INFECTIVE AND PARASITIC DISEASES	Total	100	1	17	1	23	1	1	3		2	1		50	36	14
	Male	65	1	13	1	13		1	1		2			32	24	9
	Female	35		4		10	1		2			1		18	12	5
A 1 Tuberculosis of respiratory system	Male	23		7	1	2			1		1			12	7	4
	Female	7		1		4								5	1	1
A Active	Male	22		7	1	2					1			11	7	4
	Female	6		1		4								5		1
B Inactive (002.2, 008.2)	Male	1							1					1		
	Female	1													1	
A 2 Tuberculosis of meninges and central nervous system	Male	1													1	
	Female	1							1					1		
A 4 Tuberculosis of bones and joints	Male	1		1										1		
	Female															
A 5 Tuberculosis, all other forms	Male	3		1		1								2	1	
	Female	1													1	
A 6 Congenital syphilis	Male	1							1					1		
	Female															
A 9 General paralysis of insane	Male	1														1
	Female															
A 10 All other syphilis	Male	10		2		5								7	2	1
	Female	4		1		1			1					3	1	
A 20 Septicaemia and pyaemia	Male	1		1										1	2	
	Female	3				1								1	1	1
A 21 Diphtheria	Male	2													1	1
	Female	1														
A 22 Whooping cough	Male	1													1	
	Female	1				1								1		
A 23 Meningococcal infections	Male															
	Female	2				1	1							2		
A 29 Acute infectious encephalitis	Male	2				1								1	1	
	Female	2		1								1		2		
A 30 Late effects of acute poliomyelitis and acute infectious encephalitis	Male	3				1								1	2	
	Female	1													1	
A 32 Measles	Male	7				1								1	5	1
	Female	3													2	1
A 34 Infectious hepatitis	Male	4									1			1	2	1
	Female	6		1										3	3	
A 43 All other diseases classified as infective and parasitic	Male	5	1	1		2								4	1	2
	Female	3														
II. NEOPLASMS	Total	1651	7	359	10	350	7	33	58	47	26	17	1	915	510	226
	Male	940	4	195	8	205	5	18	29	23	10	8		503	304	131
	Female	711	3	164	2	145	2	15	29	24	16	9	1	410	206	95
All malignant neoplasms (A44-A59)	Male	920	4	189	8	202	5	18	29	23	10	8		496	299	125
	Female	695	3	161	2	141	2	14	28	24	16	9	1	401	200	94
A 44 Malignant neoplasm of buccal cavity and pharynx	Male	19		7		3			2			1		13	4	2
	Female	6		2					1		1			4		2
A 45 Malignant neoplasm of oesophagus	Male	14		4		3		1						8	5	1
	Female	9		3		1								4	2	3
A 46 Malignant neoplasm of stomach	Male	141		19	4	35		3	3	6	1	1		72	54	15
	Female	51	1	10	1	11			2	1		1		27	16	8
A 47 Malignant neoplasm of intestine, except rectum	Male	78	1	22		19	3			2				49	24	5
	Female	66	1	18	1	14		1	3	1	2			41	16	9
A 48 Malignant neoplasm of rectum	Male	51		10		8	1			2	1			22	17	12
	Female	31		4		7		1	1	4			1	18	5	8
A 49 Malignant neoplasm of larynx	Male	8		1		3			2					6	2	
	Female															
A 50 Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary	Male	180	2	41		32	1	4	6	2	5	1		94	59	27
	Female	36		11		4			1	2	1			19	13	4
A 51 Malignant neoplasm of breast	Male	3												2	1	
	Female	125	1	25		30	1	2	5	2	6	1		73	31	21
A 52 Malignant neoplasm of cervix uteri	Male	33		10		11		1	1					24	8	1
	Female															
A 53 Malignant neoplasm of other and unspecified parts of uterus	Male	24		4		4			1	4				13	7	4
	Female	97		11		20		2	8	2	2	2		47	30	20
A 54 Malignant neoplasm of prostate	Male	9		2						1				3	5	1
	Female	14		6					1	1		1		12	2	
A 55 Malignant neoplasm of skin	Male	10		3		2			1	1				7	3	
	Female	11				2		1						3	5	3

TABLE 7—CAUSE OF DEATH BY SEX, RURAL AND URBAN AND FOR URBAN PLACES OF 5,000 POPULATION AND OVER IN ALBERTA, 1963—Continued

CAUSE OF DEATH (Intermediate List) (7th Rev.)	SEX	1957																							
		Total	Bowness	Calgary	Camrose	Edmonton	Grande Prairie	Jasper Place	Lethbridge	Medicine Hat	Red Deer	Wetaskiwin	Montgomery	Tl. urban places 5000 + population	Residual (rural)	Other urban places 1000-4999 pop.									
A 57 Malignant neoplasm of all other and unspecified sites	Male	211	51	4	51	5	5	4	1	1	122	63	26												
	Female	222	52	46	1	6	8	8	7	4	132	71	12												
A Other digestive organs (155-159)	Male	93	21	4	20	3	3	4	3	1	55	26	19												
	Female	98	19	18	1	3	4	4	3	1	53	37	8												
B Other respiratory organs (160, 164, 165)	Male	2	2	2	2	2	2	2	2	2	2	1	7												
	Female	1	1	1	1	1	1	1	1	1	1	1	3												
C Urinary organs (180, 181)	Male	54	13	16	2	1	1	1	1	1	32	15	7												
	Female	25	7	2	1	1	1	1	1	1	13	9	3												
D Brain and other parts of nervous system (193)	Male	30	8	8	2	2	2	2	2	2	16	11	3												
	Female	14	5	2	1	1	1	1	1	1	10	4	4												
E Other	Male	32	9	5	2	2	2	2	2	2	17	11	4												
	Female	84	21	24	2	2	3	2	2	2	56	20	8												
A 58 Leukaemia and aleukaemia	Male	49	12	15	1	1	1	1	1	1	30	14	5												
	Female	36	9	4	4	4	4	4	4	4	17	13	6												
A 59 Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system	Male	50	6	9	3	1	2	2	2	2	21	18	11												
	Female	31	7	4	2	2	2	2	2	2	14	11	6												
A Hodgkin's disease (201)	Male	11	1	1	1	1	1	1	1	1	2	7	2												
	Female	7	1	1	1	1	1	1	1	1	3	3	1												
B Other	Male	39	5	9	2	1	2	1	2	1	19	11	9												
	Female	24	6	3	1	1	1	1	1	1	11	8	5												
A 60 Benign neoplasms and neoplasms of unspecified nature	Male	20	6	3	1	1	1	1	1	1	9	5	6												
	Female	16	3	4	1	1	1	1	1	1	9	6	1												
III, IV. ALLERGIC DISORDERS AND ENDOCRINE METABOLIC AND BLOOD DISEASES	Total	212	40	3	48	1	12	4	5	2	1	1	117	72	23										
	Male	124	20	3	28	1	4	4	3	1	1	1	64	43	17										
	Female	88	20	20	20	8	8	2	1	1	53	29	6												
A 61 Nontoxic goitre	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1										
	Female	2	2	2	2	2	2	2	2	2	2	2	2	2	2										
A 62 Thyrotoxicosis with or without goitre	Male	4	4	4	4	4	4	4	4	4	4	4	4	4	4										
	Female	59	8	14	3	3	2	1	1	1	31	23	5												
A 63 Diabetes mellitus	Male	51	8	15	6	2	1	1	1	1	33	13	5												
	Female	2	2	2	2	2	2	2	2	2	2	2	2	2	2										
A 64 Avitaminosis and other deficiency states	Male	13	2	4	1	1	1	1	1	1	7	4	2												
	Female	10	4	1	1	1	1	1	1	1	6	3	1												
A 65 Anaemias	Male	48	10	3	9	1	1	1	1	1	25	15	9												
	Female	20	6	4	4	1	1	1	1	1	11	9	2												
V. MENTAL PSYCHONEUROTIC, AND PERSONALITY DISORDERS	Total	30	8	2	6	2	1	2	2	2	21	6	3												
	Male	23	7	1	3	2	1	1	1	1	15	6	2												
	Female	7	1	1	3	1	1	1	1	1	6	2	1												
A 67 Psychoses	Male	10	2	1	1	2	1	1	1	1	7	3	1												
	Female	4	1	1	1	1	1	1	1	1	4	2	1												
A 68 Psychoneuroses and disorders of personality	Male	9	3	2	2	1	1	1	1	1	6	2	1												
	Female	2	2	1	1	1	1	1	1	1	1	1	1												
A 69 Mental deficiency	Male	4	2	1	1	1	1	1	1	1	2	1	1												
	Female	1	1	1	1	1	1	1	1	1	1	1	1												
VI. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS	Total	1100	6	253	15	211	9	15	38	28	14	8	6	603	300	197									
	Male	581	144	6	104	4	6	16	13	7	6	2	308	170	103										
	Female	519	6	109	9	107	5	9	22	15	7	2	4	295	130	94									
A 70 Vascular lesions affecting central nervous system	Male	505	118	5	92	2	5	15	11	6	6	2	262	150	93										
	Female	488	6	104	9	100	5	7	21	14	7	2	4	279	117	92									
A 71 Nonmeningococcal meningitis	Male	7	1	1	1	1	1	1	1	1	1	1	1	3	1	1									
	Female	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1									
A 72 Multiple sclerosis	Male	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1									
	Female	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1									
A 73 Epilepsy	Male	13	5	1	1	1	1	1	1	1	8	4	1												
	Female	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1									
A 74 Inflammatory diseases of eye	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1									
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1									
A 77 Otitis media and mastoiditis	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1									
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1									
A 78 All other diseases of the nervous system and sense organs	Male	52	19	1	9	2	1	2	2	2	34	12	6												
	Female	18	3	5	2	2	1	1	1	1	11	5	2												
VII. DISEASES OF THE CIRCULATORY SYSTEM	Total	3178	14	519	47	719	15	39	133	102	38	18	8	1652	1007	519									
	Male	2072	11	295	23	469	14	28	84	53	25	10	5	1017	728	327									
	Female	1106	3	224	24	250	1	11	49	49	13	8	3	635	279	192									
A 79 Rheumatic fever	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1									
	Female	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1									

TABLE 7—CAUSE OF DEATH BY SEX, RURAL AND URBAN AND FOR URBAN PLACES OF 5,000 POPULATION AND OVER IN ALBERTA, 1963—Continued

CAUSE OF DEATH (Intermediate List) (7th Rev.)	SEX															Total urban places 5,000 + population	Residual (rural)	Other urban places 1,000-4,999 pop.
		Total	Bowness	Calgary	Camrose	Edmonton	Grande Prairie	Jasper Place	Lethbridge	Medicine Hat	Red Deer	Wetaskiwin	Montgomery	Tl. urban places 5,000 + population	Residual (rural)			
A 80 Chronic rheumatic heart disease	Male	36	...	9	...	6	...	2	3	2	...	...	...	22	10	...	4	9
	Female	56	...	11	...	13	1	2	4	2	1	...	...	34	13	...	...	...
A 81 Arteriosclerotic and degenerative heart disease	Male	1752	9	230	22	403	14	21	72	45	24	10	4	854	620	278	...	...
	Female	788	3	153	23	184	...	6	38	35	7	7	2	457	203	128	...	...
A 82 Other diseases of heart	Male	81	1	16	1	8	...	...	...	1	...	...	...	27	40	14	...	...
	Female	69	...	20	2	9	...	...	3	...	2	...	...	36	20	13	...	...
A 83 Hypertension with heart disease	Male	50	1	11	...	12	...	1	1	1	...	...	...	27	16	7	...	...
	Female	58	...	10	...	17	...	2	...	1	1	...	...	31	13	14	...	...
A 84 Hypertension without mention of heart	Male	16	...	4	...	4	...	...	...	...	...	...	1	9	5	2	...	...
	Female	22	...	6	...	2	...	...	...	1	...	...	...	9	5	8	...	...
A 85 Diseases of arteries	Male	110	...	18	...	31	...	3	8	3	1	...	...	64	27	19	...	...
	Female	93	...	19	...	24	...	1	3	7	1	1	1	57	19	17	...	...
A 86 Other diseases of circulatory system	Male	26	...	7	...	5	...	1	...	...	...	...	...	14	9	3	...	...
	Female	20	...	5	...	1	...	...	1	3	1	...	...	11	6	3	...	...
VIII. DISEASES OF THE RESPIRATORY SYSTEM	Total	670	2	111	71	109	9	11	18	19	20	3	1	374	181	115	...	...
	Male	436	1	69	45	74	6	6	14	11	9	2	...	237	122	77	...	...
	Female	234	1	42	26	35	3	5	4	8	11	1	1	137	59	38	...	...
A 87 Acute upper respiratory infections	Male	3	...	...	...	1	...	...	...	...	...	...	...	1	2	...	...	...
	Female	2	...	...	...	1	...	...	...	...	...	...	...	1	1	...	...	...
A 88 Influenza	Male	31	...	4	6	2	1	...	...	1	...	...	...	14	14	3	...	...
	Female	37	...	2	4	6	...	...	1	...	1	...	...	15	16	6	...	...
A 89 Lobar pneumonia	Male	21	...	3	...	2	1	...	...	...	...	...	...	10	4	7	...	...
	Female	13	...	3	2	1	...	1	...	...	3	1	...	11	2	...	...	...
A 90 Bronchopneumonia	Male	145	...	14	37	14	3	1	2	3	1	...	...	75	42	28	...	...
	Female	110	1	23	20	6	2	3	1	5	3	...	1	65	23	22	...	...
A 91 Primary atypical, other and unspecified pneumonia	Male	65	...	10	...	20	...	1	2	1	2	1	...	37	23	5	...	...
	Female	34	...	4	...	11	...	1	1	1	3	...	...	21	6	7	...	...
A 92 Acute bronchitis	Male	4	...	...	...	1	...	...	...	...	...	...	...	1	1	2	...	...
	Female	1	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...
A 93 Bronchitis, chronic and unqualified	Male	63	...	20	1	16	...	3	3	1	1	...	...	45	13	5	...	...
	Female	6	...	2	...	1	...	...	...	...	...	...	...	3	2	1	...	...
A 94 Hypertrophy of tonsils and adenoids	Male	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
	Female	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A 95 Empyema and abscess of lung	Male	6	...	...	...	3	...	...	...	1	...	...	...	4	1	1	...	...
	Female	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A 96 Pleurisy	Male	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Female	1	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...
A 97 All other respiratory diseases	Male	98	1	18	1	15	1	1	7	4	1	1	...	50	22	26	...	...
	Female	29	...	7	...	8	...	...	1	2	1	...	...	19	8	2	...	...
IX. DISEASES OF THE DIGESTIVE SYSTEM	Total	354	3	65	9	76	1	3	11	17	10	1	1	197	100	57	...	...
	Male	222	2	48	7	49	1	...	8	8	5	...	1	129	58	35	...	...
	Female	132	1	17	2	27	...	3	3	9	5	1	...	68	42	22	...	...
A 99 Ulcer of stomach	Male	18	...	6	1	5	...	...	...	...	...	...	...	12	3	3	...	...
	Female	7	...	2	...	2	...	...	...	1	...	...	...	5	2	...	...	...
A100 Ulcer of duodenum	Male	37	2	7	2	10	...	...	2	1	2	...	...	26	9	2	...	...
	Female	2	...	...	...	...	...	...	...	1	1	...	...	2	...	...	...	...
A101 Gastritis and duodenitis	Male	2	...	1	...	...	...	...	...	...	...	...	...	1	1	...	...	...
	Female	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A102 Appendicitis	Male	10	...	3	...	2	...	...	...	...	1	...	...	6	4	...	...	...
	Female	2	...	...	...	1	...	...	...	...	...	...	...	1	...	1	...	...
A103 Intestinal obstruction and hernia	Male	27	...	5	...	5	...	...	...	4	...	...	...	14	7	6	...	...
	Female	22	...	3	...	5	...	1	...	1	...	1	...	11	2	9	...	...
A104 Gastro-enteritis and colitis, except diarrhoea of the newborn	Male	34	...	5	1	5	1	...	1	...	1	...	...	14	11	9	...	...
	Female	29	...	2	...	4	...	1	...	...	1	...	...	8	16	5	...	...
A105 Cirrhosis of liver	Male	44	...	13	1	11	...	...	1	2	...	...	1	29	10	5	...	...
	Female	17	...	5	...	5	...	...	...	3	1	...	...	14	2	...	...	...
A106 Cholelithiasis and cholecystitis	Male	18	...	2	...	4	...	...	3	...	...	...	...	9	5	4	...	...
	Female	26	1	1	1	6	...	...	3	2	1	...	...	15	10	1	...	...
A107 Other diseases of digestive system	Male	32	...	6	2	7	...	...	1	1	1	...	...	18	8	6	...	...
	Female	26	...	4	1	4	...	1	...	1	1	...	...	12	9	5	...	...
X. DISEASES OF THE GENITO-URINARY SYSTEM	Total	141	...	27	4	21	...	2	12	5	2	...	...	73	45	23	...	...
	Male	92	...	14	3	15	...	1	8	5	1	...	...	47	32	13	...	...
	Female	49	...	13	1	6	...	1	4	...	1	...	...	26	13	10	...	...
A109 Chronic, other and unspecified nephritis	Male	31	...	6	...	7	...	...	2	...	...	...	...	15	12	4	...	...
	Female	25	...	8	1	2	...	...	1	...	...	...	...	12	7	6	...	...
A110 Infections of kidney	Male	23	...	3	1	4	...	...	1	2	1	1	...	13	8	2	...	...
	Female	17	...	3	...	4	...	1	3	...	...	...	...	12	3	2	...	...
A111 Calculi of urinary system	Male	4	...	1	...	2	...	...	...	...	...	...	...	3	...	1	...	...
	Female	2	...	1	...	...	...	...	...	...	...	...	...	1	1	...	...	...
A112 Hyperplasia of prostate	Male	24	...	3	1	1	...	...	3	4	...	...	...	12	7	5	...	...
A114 Other diseases of genito-urinary system	Male	10	...	1	1	1	...	...	1	...	...	...	...	4	5	1	...	...
	Female	5	...	1	...	...	...	...	...	...	...	...	...	1	2	2	...	...

TABLE 7—CAUSE OF DEATH BY SEX, RURAL AND URBAN AND FOR URBAN PLACES OF 5,000 POPULATION AND OVER IN ALBERTA, 1963—Continued

CAUSE OF DEATH (Intermediate List) (7th Rev.)	SEX	Total	Bowness	Calgary	Camrose	Edmonton	Grande Prairie	Jasper Place	Lethbridge	Medicine Hat	Red Deer	Wetaskiwin	Montgomery	Tl. urban places 5,000 + population	Residual (rural)	Other urban places 1000-4999 pop.
XI. DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM	Total	11	...	3	...	...	...	...	...	...	...	...	...	3	5	3
A116 Toxaemias of pregnancy and the puerperium	Female	3	...	2	...	...	...	...	...	...	...	...	...	2	1	...
A117 Haemorrhage of pregnancy and childbirth	Female	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1
A119 Abortion with sepsis	Female	4	...	1	...	...	...	...	...	...	...	...	...	1	2	1
A120 Other complications of pregnancy, childbirth and the puerperium	Female	3	...	...	...	...	...	...	...	...	...	...	...	...	2	1
XII, XIII. DISEASES OF THE SKIN AND MUSCULO- SKELETAL SYSTEM	Total	34	...	6	1	8	...	1	1	...	...	1	...	18	15	1
	Male	19	...	2	1	5	...	1	1	...	...	1	...	11	7	1
	Female	15	...	4	...	3	...	...	...	...	...	...	...	7	8	...
A121 Infections of skin and subcutaneous tissue	Male	2	...	...	1	...	...	...	...	...	...	...	...	1	1	...
	Female	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1
A122 Arthritis and spondylitis	Male	2	...	...	...	...	...	...	...	...	...	...	...	...	2	...
	Female	6	...	1	...	2	...	...	...	...	...	...	...	3	3	...
A123 Muscular rheumatism and rheumatism unspecified	Male	1	...	...	...	...	...	1	...	...	...	...	...	1	...	...
	Female	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A124 Osteomyelitis and periostritis	Male	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
	Female	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...
A125 Ankylosis and acquired musculoskeletal deformities	Male	1	...	...	...	...	...	...	...	...	...	...	...	1	...	1
	Female	1	...	1	...	...	...	...	...	...	...	...	...	1	...	...
A126 All other diseases of skin and musculoskeletal system	Male	13	...	2	...	5	...	...	1	...	1	...	...	9	3	1
	Female	6	...	1	...	1	...	...	...	...	...	...	...	2	4	...
XIV. CONGENITAL MALFORMATIONS	Total	179	2	39	1	32	2	5	9	7	3	1	...	101	59	19
	Male	87	1	21	...	13	1	2	5	1	1	...	...	46	31	10
	Female	92	1	18	1	19	1	4	7	2	2	...	...	55	28	9
A127 Spina bifida and meningocele	Male	4	...	1	...	3	...	...	...	...	...	...	...	4	...	...
	Female	13	...	1	...	5	...	1	...	...	...	...	...	7	6	...
A Without hydrocephalus	Male	1	...	...	...	1	...	...	...	...	...	...	...	1	...	...
	Female	3	...	...	...	1	...	...	...	...	...	...	...	1	2	...
B With hydrocephalus	Male	3	...	1	...	2	...	...	...	...	...	...	...	3	...	...
	Female	10	...	1	...	4	...	1	...	...	...	...	...	19	19	...
A128 Congenital malformations of circulatory system	Male	43	1	12	...	3	...	1	2	...	...	...	...	23	12	5
	Female	40	1	9	...	6	...	2	4	1	...	...	...	23	12	5
A129 All other congenital malformations	Male	40	...	8	...	7	1	1	3	1	1	...	...	23	12	5
	Female	39	...	8	1	8	1	2	2	1	...	...	...	25	10	4
XV. CERTAIN DISEASES OF EARLY INFANCY	Total	546	7	100	...	121	5	18	17	10	7	4	1	290	174	82
	Male	335	7	63	...	81	3	10	7	6	2	2	1	182	103	50
	Female	211	...	37	...	40	2	8	10	4	5	2	...	108	71	32
A130 Birth injuries	Male	47	...	10	...	9	...	1	1	1	1	...	...	23	18	6
	Female	24	...	2	...	6	...	1	...	...	...	...	...	9	9	6
A131 Postnatal asphyxia and atelectasis	Male	86	3	15	...	25	1	3	2	3	...	...	...	52	26	8
	Female	48	...	6	...	10	1	3	2	2	...	...	...	24	16	8
A132 Infections of the newborn	Male	21	2	1	...	5	...	...	...	...	...	...	...	8	8	5
	Female	14	...	4	...	1	...	1	1	1	...	...	...	8	5	1
A133 Haemolytic disease of newborn	Male	11	...	2	...	1	...	1	...	1	...	...	...	5	3	3
	Female	10	...	3	...	1	...	1	2	...	...	...	...	7	2	1
A134 All other defined diseases of early infancy	Male	10	...	1	...	1	...	...	1	...	...	...	...	3	5	2
	Female	4	...	1	...	1	...	...	...	...	...	...	...	2	2	...
A135 Ill-defined diseases peculiar to early infancy, and immaturity unqualified.	Male	160	2	34	...	40	2	6	4	1	...	1	1	91	43	26
	Female	111	...	21	...	21	1	4	4	1	4	2	...	58	37	16
XVI. SYMPTOMS, SENILITY, AND ILL-DEFINED CONDITIONS	Total	345	7	222	17	28	1	2	1	1	...	...	6	285	50	10
	Male	244	3	164	8	18	...	...	1	1	...	...	5	200	36	8
	Female	101	4	58	9	10	1	2	...	...	...	...	1	85	14	2
A136 Senility without mention of psychosis	Male	71	1	50	...	9	...	...	...	...	...	...	2	62	7	2
	Female	39	3	20	1	6	1	1	...	...	...	...	1	33	4	2
A137 Ill-defined and unknown causes	Male	173	2	114	8	9	...	...	1	1	...	...	3	138	29	6
	Female	62	1	38	8	4	...	1	...	...	...	...	...	52	10	...

TABLE 7—CAUSE OF DEATH BY SEX, RURAL AND URBAN AND FOR URBAN PLACES OF 5,000 POPULATION AND OVER IN ALBERTA, 1963—Continued

CAUSE OF DEATH (Intermediate List) (7th Rev.)		SEX	Total	Bowness	Calgary	Canrose	Edmonton	Grande Prairie	Jasper Place	Lethbridge	Medicine Hat	Red Deer	Wetaskiwin	Montgomery	Tl. urban places 5000 + populati'n	Residual (rural)	Other urban places 1000-4999 pop.
EXVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO EXTERNAL CAUSE)			Total	893	2	144	10	168	7	7	17	14	13	6	388	376	129
			Male	687	2	111	7	122	5	5	13	10	8	4	287	302	98
			Female	206		33	3	46	2	2	4	4	5	2	101	74	31
AE138 Motor vehicle accidents			Male	268		51	1	48	2	4	2	5	4	1	118	115	35
			Female	82		15	1	15	2	1	3	...	3	1	41	25	16
A Traffic accidents (810-825)			Male	261		50	1	48	2	3	2	5	4	1	116	110	35
			Female	78		15	1	14	2	1	2	...	3	1	39	25	14
B Non-traffic accidents			Male	7		1	...	...	1	...	...	...	...	...	2	5	...
			Female	4		...	...	1	...	1	...	...	...	...	2	...	2
AE139 Other transport accidents			Male	37		9	...	3	...	1	1	...	...	1	15	14	8
			Female	1		...	...	...	...	...	...	...	...	...	...	1	...
A Drowning involving small boats (850)			Male	12		1	...	3	...	...	...	...	1	...	5	6	1
			Female	1		...	...	...	...	...	...	...	...	...	...	...	1
C Other transport			Male	25		8	...	...	...	1	1	...	...	...	10	8	7
			Female	...		...	...	...	...	...	...	...	...	...	...	...	...
AE140 Accidental poisoning			Male	33	1	5	...	10	...	1	1	1	...	...	19	11	3
			Female	...		1	...	3	...	...	...	...	...	...	4	4	...
AE141 Accidental falls			Male	61		11	3	16	1	...	3	...	1	1	36	18	7
			Female	38		6	2	7	...	1	...	2	1	...	19	10	9
AE142 Accident caused by machinery			Male	25		1	...	...	...	...	...	...	...	...	1	17	7
			Female	...		...	...	...	...	...	...	...	...	...	...	...	...
AE143 Accident caused by fire and explosion of combustible material			Male	28		1	...	3	...	...	1	...	...	...	5	20	3
			Female	12		1	...	1	...	...	...	...	...	...	2	10	...
AE144 Accidents caused by hot substance, corrosive liquid, steam, and radiation			Male	3		1	...	...	...	...	...	...	...	...	1	2	...
			Female	1		...	...	1	...	...	...	...	...	...	1	...	...
AE145 Accident caused by firearm			Male	8		1	...	...	...	...	...	1	...	...	2	5	1
			Female	3		...	...	...	...	...	...	...	...	...	...	3	...
AE146 Accidental drowning			Male	37		3	...	5	...	...	2	...	...	...	10	20	7
			Female	8		2	...	1	...	...	...	...	...	...	3	5	...
AE147 All other accidental causes			Male	85	1	8	1	14	...	...	1	2	...	1	28	41	16
			Female	22		...	...	4	...	...	...	2	1	1	8	12	2
All accidental causes			Male	585	2	91	5	99	3	5	11	8	7	4	235	263	87
			Female	175		25	3	32	2	2	3	4	5	2	78	69	28
AE148 Suicide			Male	92		18	2	21	2	...	1	2	1	...	47	35	10
			Female	15		2	...	7	...	...	...	...	...	...	9	3	3
AE149 Homicide and injury purposely inflicted by other persons (not in war)			Male	10		2	...	2	...	...	1	...	...	...	5	4	1
			Female	16		6	...	7	...	...	1	...	...	...	14	2	...
AN138 Fracture of skull			Male	146		31	...	33	...	1	4	3	4	...	76	54	16
			Female	38		8	...	8	...	2	...	...	2	...	20	11	7
AN139 Fracture of spine and trunk			Male	30		4	2	4	...	...	...	...	...	...	10	15	5
			Female	10		4	...	1	1	...	1	...	...	...	7	2	1
AN140 Fracture of limbs			Male	39		11	2	7	1	...	2	...	...	1	24	9	6
			Female	31		2	3	5	...	...	...	1	1	...	12	9	10
AN143 Head injury (excluding fracture)			Male	96		16	3	13	1	1	...	...	2	...	36	44	16
			Female	30		6	...	7	...	...	2	1	...	1	17	9	4
AN144 Internal injury of chest, abdomen, and pelvis			Male	143		27	...	23	2	3	1	1	...	...	57	62	24
			Female	34		5	...	10	1	...	1	...	1	...	18	11	5
AN145 Laceration and open wounds			Male	17		2	...	2	...	...	...	...	1	1	6	7	4
			Female	4		2	...	1	...	...	...	...	...	...	3	1	...
AN146 Superficial injury, contusion and crushing with intact skin surface			Male	...		...	...	...	...	...	...	...	...	...	...	...	...
			Female	2		1	...	...	...	...	...	...	...	...	1	1	...
AN147 Effects of foreign body entering through orifice			Male	25	1	...	...	3	...	...	1	1	...	1	7	14	4
			Female	4		...	...	1	...	...	2	...	1	...	4	...	...
AN148 Burns			Male	34		3	...	3	...	...	1	...	...	...	7	24	3
			Female	13		1	...	2	...	...	...	...	...	...	3	10	...
AN149 Effects of poisons			Male	55	1	9	...	15	...	...	2	2	1	...	30	21	4
			Female	13		1	...	6	...	...	...	...	...	...	7	4	2
AN150 All other and unspecified effects of external causes			Male	102		8	...	19	1	...	2	3	...	1	34	52	16
			Female	27		3	...	5	...	...	...	...	1	...	9	16	2

A 30	Late effects of acute poliomyelitis and acute infectious encephalitis	Male	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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DIVISION OF VITAL STATISTICS

TABLE 8—DEATHS, BY CAUSE AND SEX, BY AGE, ALBERTA, 1963 (Continued)

CAUSE OF DEATH (Intermediate List)	SEX	AGE														Total									
		Under 1 year	1 year	2 years	3 years	4 years	5-9 years	10-14 years	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years		50-54 years	55-59 years	60-64 years	65-69 years	70-74 years	75-79 years	80-84 years	85+	Not stated
XIV. CONGENITAL MALFORMATIONS	Total	179	126	3	4	7	2	1	2	1	3	2	3	3	1	3	2	2	2	1	1	1	1	1	1
	Male	87	60	1	2	4	2	1	2	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1
	Female	92	66	2	2	3	3	1	1	1	2	1	2	2	3	1	1	1	1	1	1	1	1	1	1
	A127 Spina bifida and meningocele	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	A Without hydrocephalus	13	8	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	B With hydrocephalus	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	A128 Congenital malformations of circulatory system	10	5	3	1	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	A129 All other congenital malformations	43	29	4	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	40	30	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Male	40	27	6	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
XV. CERTAIN DISEASES OF EARLY INFANCY	Total	546	546	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Male	335	335	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	211	211	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A130 Birth injuries	Male	47	47	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A131 Postnatal asphyxia and atelectasis	Female	24	24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A132 Infections of the newborn	Male	86	86	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A133 Haemolytic disease of newborn	Female	21	21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A134 All other defined diseases of early infancy	Male	14	14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A135 Ill-defined diseases peculiar to early infancy, and immaturity unqualified	Female	10	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Male	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
XVI. SYMPTOMS, SENILITY, AND ILL-DEFINED CONDITIONS	Total	111	111	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Male	345	24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	244	16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A136 Senility without mention of psychosis	Male	101	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Female	71

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DIVISION OF VITAL STATISTICS

TABLE 8—DEATHS, BY CAUSE AND SEX, BY AGE, ALBERTA, 1963 (Continued)

CAUSE OF DEATH (Intermediate List)	SEX	AGE															Total								
		Under 1 year	1 year	2 years	3 years	4 years	5-9 years	10-14 years	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years		55-59 years	60-64 years	65-69 years	70-74 years	75-79 years	80-84 years	85+	Not stated
ANI43 Head injury (excluding fracture)	Male	96	...	...	...	3	2	2	4	9	15	5	6	4	8	7	4	6	8	2	3	3	5	3	...
Female	30	...	...	...	...	1	1	2	2	2	2	5	1	3	3	6	1	1	1	3	2	2	1	1	...
ANI44 Internal injury of chest, abdomen, and pelvis	Male	143	...	...	...	...	7	4	5	16	22	17	14	15	15	9	7	6	5	3	8	2	2	1	...
Female	34	...	...	...	...	...	...	2	4	10	1	1	1	1	1	2	3	1	1	1	1	1	1	1	...
ANI45 Laceration and open wounds	Male	17	...	...	...	...	1	...	1	1	1	2	1	1	1	1	1	2	1	1	1	2	1	1	...
Female	4	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ANI46 Superficial injury, contusion and crushing with intact skin surface	Male	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Female	25	13	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ANI47 Effects of foreign body entering through orifice	Male	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Female	34	1	4	1	4	1	1	2	3	1	2	...	2	2	2	2	1	1	1	1	1	1	1	1	...
ANI48 Burns	Male	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Female	55	1	1	2	2	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ANI49 Effects of poisons	Male	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Female	102	8	4	2	3	3	5	12	8	18	1	1	5	3	4	1	3	3	2	3	1	2	2	2	...
ANI50 All other and unspecified effects of external causes	Male	27	12
Female	27	12

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DIVISION OF VITAL STATISTICS

TABLE 10—DEATHS, BY CAUSE AND SEX, BY AGE, CALGARY, 1963 (Continued)

CAUSE OF DEATH (Intermediate List) (7th Rev.)	SEX	AGE														Total									
		Under 1 year	1 year	2 years	3 years	4 years	5-9 years	10-14 years	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years		50-54 years	55-59 years	60-64 years	65-69 years	70-74 years	75-79 years	80-84 years	85 +	Not stated
A 64 Avitaminosis and other deficiency states A 65 Anaemias A 66 Allergic disorders; all other endocrine, metabolic and blood diseases	Male
	Female	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
	Male	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...
	Male	10	1	...	...	...	1	...	...	...	...	...	1	...	...	1	1	1	...	1	2	...	...	...
	Female	6	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
V. MENTAL PSYCHONEUROTIC, AND PERSONALITY DISORDERS	Total	8	...	1	...	...	...	...	...	...	...	...	...	2	...	1	1	...	...	...	...	...	...	...
	Male	7	...	1	...	...	...	...	...	...	...	...	...	2	...	1	1	...	...	...	...	...	...	...
	Female	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Male	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Female	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A 67 Psychoses A 68 Psychoneuroses and disorders of personality A 69 Mental deficiency	Male	3	...	...	...	...	...	...	...	...	...	...	...	2	...	...	1	...	...	...	...	...	...	...
	Female	2	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
	Male	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Female	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Female	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
VI. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS	Total	253	2	1	...	1	1	1	1	3	1	...	2	2	5	8	10	7	17	31	41	62	58	...	
	Male	144	2	...	...	1	1	1	1	1	...	...	2	2	3	5	5	3	10	19	28	36	27	...
	Female	109	...	1	...	...	...	...	...	2	...	...	...	...	2	3	5	4	7	12	13	26	31	...
	Male	118	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Female	104	1	...	...	...	...	...	1	2	1	...	...	1	2	3	4	3	10	16	25	29	27	...
A 70 Vascular lesions affecting central nervous system A 71 Nonmeningococcal meningitis A 72 Multiple sclerosis	Male	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Female	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Male	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Female	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Female	5	...	...	...	...	...	...	...	1	...	...	1	1	1	1	1	1	...	...	...	...	...	...
A 77 Otitis media and mastoiditis A 78 All other diseases of the nervous system and sense organs	Female	1	
	Male	19	1	
	Female	3	
	Male	
	Female	

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TABLE 11—DEATHS, BY CAUSE AND SEX, BY MARITAL STATUS AND AGE, ALBERTA, 1963 (Continued)

CAUSE OF DEATH (Intermediate List) (7th Rev.)	SEX	SINGLE							MARRIED							WIDOWED AND DIVORCED												
		Total	Under 15 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-69 years	70 +	Total	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-69 years	70 +	Total	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-69 years	70 +	Not stated	
D Brain and other parts of nervous system (193)	Male	30	3	1	1	1	1	1	1	25	2	2	2	5	5	12	3	1	1	1	1	1	1	1	1	1	1	1
E Other	Female	14	2	1	1	1	1	1	1	9	1	1	1	1	1	3	1	2	8	4	4	4	4	4	4	4	4	4
A 58 Leukaemia and aleukaemia	Male	32	1	3	3	3	3	3	3	23	4	4	4	4	4	19	4	1	1	1	1	1	1	1	1	1	1	1
A 59 Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system.	Female	84	11	6	2	2	2	2	2	45	1	1	1	1	1	11	4	2	15	6	6	6	6	6	6	6	6	6
A Hodgkin's disease (201)	Female	36	4	2	2	2	2	2	2	26	1	1	1	1	1	4	3	2	12	7	7	7	7	7	7	7	7	7
B Other	Male	31	1	1	1	1	1	1	1	37	1	1	1	1	1	3	1	1	12	6	6	6	6	6	6	6	6	6
A 60 Benign neoplasms and neoplasms of unspecified nature	Female	17	1	2	1	1	1	1	1	9	2	2	2	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1
A 60 Benign neoplasms and neoplasms of unspecified nature	Male	28	1	1	2	2	2	2	2	28	1	1	1	1	1	7	1	1	11	6	6	6	6	6	6	6	6	6
A 60 Benign neoplasms and neoplasms of unspecified nature	Female	24	1	1	1	1	1	1	1	13	1	1	1	2	2	5	1	1	10	2	2	2	2	2	2	2	2	2
A 60 Benign neoplasms and neoplasms of unspecified nature	Male	20	4	1	1	1	1	1	1	10	2	2	2	1	1	5	1	1	5	1	1	1	1	1	1	1	1	1
A 60 Benign neoplasms and neoplasms of unspecified nature	Female	16	4	1	1	1	1	1	1	8	1	1	1	1	1	2	1	1	3	1	1	1	1	1	1	1	1	1
III, IV, ALLERGIC DISORDERS AND ENDOCRINE METABOLIC AND BLOOD DISEASES	Total	212	15	32	5	2	5	4	6	7 105	2	2	2	5	10	18	19	49	60	3	3	3	3	3	3	3	3	3
A 61 Nontoxic goitre	Male	124	10	24	3	2	4	3	5	4 65	1	1	1	1	1	8	10	11	32	25	2	2	2	2	2	2	2	2
A 62 Thyrotoxicosis with or without goitre	Female	88	5	8	2	1	1	1	1	3 40	2	2	2	1	2	8	8	17	35	1	1	1	1	1	1	1	1	1
A 63 Diabetes mellitus	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A 64 Avitaminosis and other deficiency states	Female	59	1	12	1	1	2	1	2	3 35	1	1	1	3	3	7	7	15	2	1	1	1	1	1	1	1	1	1
A 65 Anaemias	Male	51	3	3	2	2	1	1	1	26	1	1	1	1	1	5	7	12	22	1	1	1	1	1	1	1	1	1
A 66 Allergic disorders, all other endocrine, metabolic and blood diseases	Female	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
V. MENTAL PSYCHONEUROTIC, AND PERSONALITY DISORDERS	Male	13	1	1	1	1	1	1	1	8	1	1	1	2	2	1	3	3	6	1	1	1	1	1	1	1	1	1
A 67 Psychoses	Female	48	8	9	1	1	2	2	2	4 21	1	1	1	1	1	3	3	11	10	7	7	7	7	7	7	7	7	7
A 67 Psychoses	Male	20	4	3	1	1	1	1	1	7	2	2	2	1	1	1	1	2	6	1	1	1	1	1	1	1	1	1
A 67 Psychoses	Female	30	4	8	1	1	2	2	2	11	3	3	3	1	1	3	3	6	7	4	4	4	4	4	4	4	4	4
A 67 Psychoses	Male	23	3	6	1	1	2	2	2	10	2	2	2	1	1	3	3	7	8	1	1	1	1	1	1	1	1	1
A 67 Psychoses	Female	7	1	2	1	1	1	1	1	3	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1
A 67 Psychoses	Male	10	3	3	1	1	1	1	1	6	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1
A 67 Psychoses	Female	4	2	2	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

[illegible]

1.—Includes 15 'separated'

TABLE 11—DEATHS, BY CAUSE AND SEX, BY MARITAL STATUS AND AGE, ALBERTA, 1963 (Continued)

CAUSE OF DEATH (Intermediate List) (7th Rev.)	SEX	SINGLE							MARRIED¹							WIDOWED AND DIVORCED							Not stated
		Total	Under 15 years	Total	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-69 years	70 +	Total	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-69 years	70 +				
A 88 Influenza	Male	31	6	5	1	1	1	1	1	1	3	12	1	1	1	1	2	1	10	8			
A 89 Lobar pneumonia	Female	37	5	3	1	1	1	1	1	1	3	7	1	1	1	1	2	1	3	19			
A 90 Bronchopneumonia	Male	21	5	4	1	1	1	1	1	1	3	7	1	1	1	1	2	1	3	19			
A 91 Primary atypical, other and unspecified pneumonia	Female	145	24	24	2	2	2	2	2	2	19	51	5	5	1	2	2	2	44	9			
A 92 Acute bronchitis	Male	110	21	14	1	1	1	1	1	1	8	11	1	1	1	1	1	2	14	64			
A 93 Bronchitis, chronic and unqualified	Female	65	20	8	2	1	1	1	1	1	1	6	1	1	1	1	1	1	9	20			
A 94 Hypertrophy of tonsils and adenoids	Male	34	8	2	1	1	1	1	1	1	1	6	1	1	1	1	1	4	18	17			
A 95 Empyema and abscess of lung	Female	4	2	2	1	1	1	1	1	1	3	8	1	1	1	1	1	1	2	11			
A 96 Pleurisy	Male	63	2	12	1	1	1	1	1	1	3	35	1	1	4	7	5	17	14	2			
A 97 All other respiratory diseases	Female	6	1	1	1	1	1	1	1	1	1	4	1	1	1	1	1	2	1	1			
XIX. DISEASES OF THE DIGESTIVE SYSTEM	Male	1	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	3	3			
	Female	98	3	20	3	3	1	1	1	1	9	46	1	1	1	1	10	11	24	28			
	Male	29	3	3	1	1	1	1	1	1	7	10	1	1	3	1	10	11	1	16			
	Female	354	61	36	2	1	5	4	8	3	13	167	1	5	15	30	24	14	78	88			
A 99 Ulcer of stomach	Male	222	36	32	1	3	4	4	8	3	13	114	1	4	10	18	16	8	58	38			
A100 Ulcer of duodenum	Female	132	25	4	2	2	2	2	2	2	5	53	1	1	5	12	8	6	20	50			
A101 Gastritis and duodenitis	Male	18	1	1	1	1	1	1	1	1	1	10	1	1	1	1	2	1	6	7			
A102 Appendicitis	Female	7	1	1	1	1	1	1	1	1	2	2	2	2	4	5	5	2	5	5			
A103 Intestinal obstruction and hernia	Male	37	10	1	1	1	1	1	1	1	3	4	18	1	1	3	1	1	11	9			
A104 Gastro-enteritis and colitis, except diarrhoea of the newborn	Female	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
	Male	10	3	3	2	2	2	2	1	1	1	3	1	1	1	1	1	1	1	1			
	Female	2	2	4	1	1	1	1	3	1	1	10	1	1	1	1	3	1	6	8			
	Male	27	8	4	1	1	1	1	2	1	1	8	1	1	1	1	1	1	4	5			
	Female	22	6	3	1	1	1	1	3	1	1	9	1	1	1	1	1	1	1	2			
	Male	34	22	9	1	1	1	1	2	1	1	9	1	1	1	1	1	1	1	1			
	Female	29	18	1	1	1	1	1	1	1	1	8	1	1	1	1	1	1	2	2			

A105 Cirrhosis of liver	44	1	7	1	1	2	1	30	2	6	6	1	8	1	7	6	1	1	4	2	...	...
Male	17	...	...	...	...	...	...	10	...	...	...	...	1	...	...	...	...	...	...	...	...	...
Female	18	...	4	...	...	...	...	11	...	...	...	...	2	...	...	...	...	...	...	...	...	...
A106 Cholelithiasis and cholecystitis	26	...	...	...	...	...	...	12	1	3	2	...	5	1	6	2	...	...	...	...	...	...
Male	32	2	3	...	...	...	...	22	1	1	3	...	13	2	5	14	...	...	1	2	...	...
Female	26	1	2	1	...	...	...	12	1	5	1	...	3	1	3	5	...	...	...	...	...	...
A107 Other diseases of digestive system	141	1	16	1	1	1	...	81	1	9	8	...	10	34	43	...	...	...	...	...	...	...
Total	92	16	16	1	1	1	...	58	...	...	...	...	9	31	18	...	...	...	...	...	...	...
Male	49	1	...	...	...	...	...	23	1	5	5	...	1	3	25	...	...	...	...	...	...	...
Female	31	...	6	...	...	...	...	4	...	...	...	...	6	4	2	...	...	...	...	...	...	...
A109 Chronic, other and unspecified nephritis	25	...	...	...	...	...	...	10	1	2	1	...	3	2	15	...	...	...	...	...	...	...
Male	23	...	2	...	...	...	...	16	...	...	...	...	6	9	5	...	...	...	...	...	...	...
Female	17	1	...	...	...	...	...	9	1	2	2	...	1	3	7	...	...	...	...	...	...	...
A110 Infections of kidney	4	...	...	...	...	...	...	3	...	...	...	...	2	1	3	...	...	...	...	...	...	...
Male	17	...	...	...	...	...	...	...	...	...	...	...	1	2	1	...	...	...	...	...	...	...
Female	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A111 Calculi of urinary system	2	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Male	2	...	4	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Female	24	...	4	...	...	...	...	14	...	...	...	...	3	11	6	...	...	...	...	...	...	...
A112 Hyperplasia of prostate	10	...	4	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A114 Other diseases of genito-urinary system	5	...	...	...	...	...	...	3	...	1	2	...	...	...	...	...	...	...	...	...	...	...
Male	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Female	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
XI. DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM	11	...	2	2	...	...	...	9	1	2	6	...	...	...	...	...	...	...	...	...	...	...
A116 Toxaemias of pregnancy and the puerperium	3	...	1	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Female	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A117 Haemorrhage of pregnancy and childbirth	1	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Female	4	...	1	...	...	...	...	3	1	...	...	...	...	...	...	...	...	...	...	...	...	...
A119 Abortion with sepsis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Female	3	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A120 Other complications of pregnancy, childbirth and the puerperium	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
XII, XIII, DISEASES OF THE SKIN AND MUSCULOSKELETAL SYSTEM	34	2	9	4	...	...	...	1	...	...	...	...	3	15	8	...	...	...	...	...	...	...
Total	19	...	6	3	...	...	...	2	...	...	...	...	1	8	3	...	...	...	...	...	...	...
Male	15	2	3	1	...	...	...	1	...	...	...	...	...	1	3	...	...	...	...	...	...	...
Female	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A121 Infections of skin and subcutaneous tissue	2	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Male	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Female	1	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A122 Arthritis and spondylitis	2	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Male	2	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Female	6	...	1	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A123 Muscular rheumatism and rheumatism unspecified	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Male	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Female	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A124 Osteomyelitis and peritonitis	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Male	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Female	1	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A125 Ankylosis and acquired musculo-skeletal deformities	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Male	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Female	13	...	3	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A126 All other diseases of skin and musculoskeletal system	6	2	...	...	...	...	...	3	...	2	1	...	...	...	...	...	...	...	...	...	...	...

1.—Includes 15 'separated'

TABLE 11—DEATHS, BY CAUSE AND SEX, BY MARITAL STATUS AND AGE, ALBERTA, 1963 (Continued)

CAUSE OF DEATH (Intermediate List) (7th Rev.)	SEX	SINGLE							MARRIED ¹							WIDOWED AND DIVORCED																
		Total	Under 15 years						Total	15-24 years						Total	15-24 years						Total	15-24 years						Total	70 +	Not stated
			15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-69 years		70 +	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years		65-69 years	70 +	15-24 years	25-34 years	35-44 years	45-54 years		55-64 years	65-69 years	70 +						
XIV. CONGENITAL MALFORMATIONS	Total	179	157	4	2	1	1	1	15	3	1	1	1	4	3	2	2	3	1	1	1	1	2	2	3	1	2	70 +				
	Male	87	79	1	1	1	1	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2				
	Female	92	78	3	1	1	1	1	11	2	1	1	1	2	2	1	1	2	1	1	1	1	1	1	1	1	1	2				
	Male	4	4																													
	Female	13	13																													
	Male	1	1																													
	Female	3	3																													
	Male	10	10																													
	Female	43	38	1	1				3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
	Male	40	35						5	1	1	1	1	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1				
	Female	40	37						6	1	1	1	1	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1				
	Female	39	30	3	1	1			1	1	1	1	1	2	2	1	1	2	1	2	1	1	1	1	1	1	1	1	2			
XV. CERTAIN DISEASES OF EARLY INFANCY	Total	546	546																													
	Male	335	335																													
	Female	211	211																													
A130 Birth injuries	Male	47	47																													
A131 Postnatal asphyxia and atelectasis	Male	24	24																													
Female	86	86																														
A132 Infections of the newborn	Male	48	48																													
Female	21	21																														
A133 Haemolytic disease of newborn	Female	14	14																													
Male	11	11																														
A134 All other defined diseases of early infancy	Female	10	10																													
Male	10	10																														
A135 Ill-defined diseases peculiar to early infancy, and immaturity unqualified	Female	4	4																													
Male	160	160																														
Female	111	111																														
XVI. SYMPTOMS, SENILITY, AND ILL-DEFINED CONDITIONS	Total	345	25	53																												
	Male	244	17	47																												
	Female	101	8	6																												
A136 Senility without mention of psychosis	Male	71	...	17																												
Female	39	...	4																													

A137 Ill-defined and unknown causes	Male	173	17	30	2	2	2	6	9	6	5	89	1	5	17	20	17	29	32	5	2	21	5
	Female	62	8	2	...	...	...	1	1	...	...	24	1	...	3	10	3	7	28	2	21	...
EXVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO EXTERNAL CAUSE)	Total	893	162	245	128	43	23	8	9	6	28	399	24	80	83	57	11	54	84	5	59	3	
	Male	687	115	211	99	43	23	8	9	5	26	320	17	67	76	65	44	9	42	2	4	59	
A Motor vehicle accidents	Female	206	47	34	29	1	...	1	1	1	2	79	7	13	14	18	2	12	46	1	34	...	
	Male	268	23	99	60	20	11	1	1	...	6	136	4	31	38	32	13	2	16	1	1	1	
A Traffic accidents	Female	82	8	24	24	...	...	...	...	...	...	42	6	5	5	13	9	1	8	...	3	1
	Male	261	20	98	60	20	11	1	1	...	5	134	4	31	37	32	13	2	15	1	1	1	
B Non-traffic accidents	Female	78	5	24	24	...	...	...	...	...	...	42	6	5	5	13	9	1	7	...	4	1
	Male	7	3	1	...	...	...	...	...	...	1	2	...	...	...	...	...	...	...	...	...	...
AE138 Other transport accidents	Female	4	3	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Male	37	2	9	3	2	3	1	1	...	25	1	14	5	1	3	1	1	1	1	1	...	
A Drowning involving small boats (85b)	Female	1	...	5	2	1	1	1	...	...	7	...	...	3	1	2	1	...	...	...	...	...
	Male	12	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
C Other transport	Female	25	2	4	1	1	2	1	...	...	18	1	11	4	1	1	...	...	...	...	...	...
	Male	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
AE140 Accidental poisoning	Female	33	5	7	6	1	1	...	...	...	20	1	1	5	10	2	1	1	1	...	...	1
	Male	8	1	2	1	1	...	...	...	...	4	...	...	1	1	...	...	...	...	...	...	...
AE141 Accidental falls	Female	61	...	21	5	1	2	1	1	1	10	24	1	1	4	2	1	13	16	...	16	...	
	Male	38	...	1	...	...	...	...	...	...	1	8	1	2	3	3	...	7	29	...	27	...
AE142 Accident caused by machinery	Female	25	5	4	2	1	1	...	...	...	14	1	2	3	3	...	2	2	2	1	1	...
	Male	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
AE143 Accident caused by fire and explosion	Female	28	15	6	1	1	...	...	...	...	3	7	1	2	2	1	1	...	1	...	1	...
	Male	12	10	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
AE144 Accident caused by hot substances	Female	3	1	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...
	Male	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
AE145 Accident caused by corrosive liquid, steam, and radiation	Female	1	3	3	2	1	...	...	...	...	2	...	...	...	...	...	...	...	...	...	1	...
	Male	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
AE146 Accident caused by firearm	Female	37	22	10	8	...	...	...	...	...	5	1	...	2	1	1	...	...	...	...	...	...
	Male	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
AE146 Accidental drowning	Female	8	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Male	85	38	18	6	5	1	2	...	...	4	27	6	6	3	2	...	3	3	1	2	1
AE147 All other accidental causes	Female	22	17	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
	Male	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
All accidental causes	Male	585	112	178	93	32	17	6	2	4	24	260	15	60	61	52	31	6	35	32	1	3	
	Female	175	46	29	25	1	...	...	...	...	2	60	6	7	6	17	11	2	11	40	3	24
AE148 Suicide	Male	92	1	33	6	11	5	2	6	1	2	54	2	6	12	11	13	3	7	1	1	...	
	Female	15	...	...	...	...	...	...	...	...	1	10	4	4	4	1	...	1	3	1	1	...
AE149 Homicide and injury purposely inflicted by other persons (not in war)	Male	10	2	...	...	...	...	...	...	...	...	16	...	3	2	...	...	...	...	...	...	...
	Female	16	1	3	3	...	...	...	...	...	...	9	1	2	4	1	1	...	...	...	1	...
NXVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO NATURE OF INJURY)	Total	893	162	245	128	43	23	8	9	6	28	399	24	80	83	57	11	54	84	5	59	3	
	Male	146	16	47	25	12	6	1	1	...	2	78	3	19	20	15	10	3	8	4	1	1	
AN138 Fracture of skull	Female	38	5	13	13	...	...	...	...	...	...	15	2	3	1	5	3	...	...	...	1	3
	Male	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

1.—Includes 15 'separated'

TABLE 11—DEATHS, BY CAUSE AND SEX, BY MARITAL STATUS AND AGE, ALBERTA, 1963 (Continued)

CAUSE OF DEATH (Intermediate List) (7th Rev.)	SEX	SINGLE										MARRIED ¹							WIDOWED AND DIVORCED							Not stated						
		Under 15 years							Total	70 +							Total	70 +							Total							
		15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-69 years	70 +		15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-69 years	70 +		15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-69 years	70 +								
ANI39 Fracture of spine and trunk	Male	1	13	2	3	1	1	1	6	13	1	2	2	5	2	...	1	1	3	1	...	...	...	3	...	...	...	...	...	70 +	
ANI40 Fracture of limbs	Female	10	7	1	...	...	...	...	5	17	2	1	1	1	1	...	13	...	...	...	...	...	...	...	...	...	...	...	15	...	
	Male	39	31	...	...	...	...	...	2	6	...	...	...	...	...	...	5	...	23	...	...	...	...	...	...	...	...	23	...		
ANI43 Head injury (excluding fracture)	Female	96	4	2	5	3	2	3	3	44	1	6	9	11	2	...	6	...	2	...	...	...	...	...	...	...	...	2	...		
ANI44 Internal injury of chest, abdomen, and pelvis	Female	143	12	42	18	12	8	...	1	82	3	21	16	10	1	...	1	...	7	...	...	...	...	...	...	...	...	1	...		
ANI45 Laceration and open wounds	Female	34	4	11	11	1	...	...	3	18	3	2	5	1	5	...	1	...	1	...	...	...	...	...	...	...	...	1	...		
ANI46 Superficial injury, contusion and crushing with intact skin surface	Female	17	1	1	1	...	...	...	12	1	...	...	...	2	2	...	2	...	3	...	...	...	...	...	...	...	1	...	1	...	
ANI47 Effects of foreign body entering through orifice	Female	2	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
ANI48 Burns	Female	25	4	...	...	2	...	...	1	2	1	1	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	1	...	1	...
	Male	4	3	...	...	...	...	...	4	9	1	1	3	2	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ANI49 Effects of poisons	Female	34	15	9	2	1	1	...	1	1	1	1	1	1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Male	56	11	...	...	...	...	...	...	30	1	9	12	8	3	...	2	...	1	...	...	...	...	...	...	...	...	...	...	...	...
ANI50 All other and unspecified effects of external causes	Female	13	1	2	4	2	...	...	1	7	1	2	2	2	1	...	1	...	3	...	...	...	...	...	...	...	...	1	...	1	...
	Male	102	37	19	5	1	1	2	2	33	7	6	1	3	4	...	4	...	1	1	...	1	...
	Female	27	18	2	...	1	...	1	6	2	2	...	2	...	1

1.—Includes 15 'separated'.

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TABLE 12—DEATHS BY CAUSE, SEX AND MONTH OF DEATH, ALBERTA, 1963

CAUSE OF DEATH (Intermediate List)		SEX	MONTHS												
			Total	January	February	March	April	May	June	July	August	September	October	November	December
ALL CAUSES		Total	9444	787	711	818	875	857	726	760	800	705	777	818	810
		Male	5927	504	443	514	533	519	448	486	509	438	494	521	518
		Female	3517	283	268	304	342	338	278	274	291	267	283	297	292
I. INFECTIVE AND PARASITIC DISEASES		Total	100	5	10	12	13	10	9	5	6	6	7	9	6
		Male	65	3	6	10	8	6	8	4	3	2	6	3	6
		Female	35	2	4	2	5	4	1	1	3	4	1	6	2
A 1 Tuberculosis of respiratory system		Male	23	1	2	4	2	3	2	...	1	2	2	3	...
		Female	7	2	...	...	...	1	...	3	1	...	...	...	...
A Active		Male	22	1	1	2	3	2	3	2	...	1	2	2	3
		Female	6	2	...	...	...	1	...	2	1	...	...	...	...
B Inactive		Male	1	...	...	1	...	...	...	...	...	...	...	...	...
		Female	1	...	...	...	...	...	1	...	1	...	...	...	...
A 2 Tuberculosis of meninges and central nervous system		Male	1	...	...	...	...	...	1	...	...	...	...	...	1
		Female	1	...	...	...	...	...	...	...	...	...	...	...	...
A 4 Tuberculosis of bones and joints		Male	1	...	...	...	...	...	1	...	...	...	...	...	...
		Female	...	...	...	...	...	...	...	...	...	...	...	...	...
A 5 Tuberculosis, all other forms		Male	3	...	...	...	...	...	1	1	...	...	1	...	...
		Female	1	...	1	...	...	...	...	...	...	...	...	...	...
A 6 Congenital syphilis		Male	1	...	...	...	...	...	...	...	...	1	...	...	...
		Female	...	...	...	...	...	...	...	...	...	...	...	...	...
A 9 General paralysis of insane		Male	1	1	...	...	...	...	...	...	...	...	...	...	...
		Female	...	...	...	...	...	...	...	...	...	...	...	...	...
A 10 All other syphilis		Male	10	1	1	1	1	1	2	...	1	...	1	...	1
		Female	4	...	...	...	2	...	...	...	...	1	...	...	1
A 20 Septicaemia and pyaemia		Male	1	...	1	...	...	...	...	...	...	...	...	...	...
		Female	3	...	...	...	1	1	...	...	...	1	...	...	...
A 21 Diphtheria		Male	2	...	1	1	...	...	...	...	...	...	...	...	...
		Female	1	...	1	...	...	...	...	...	...	...	...	...	...
A 22 Whooping cough		Male	1	...	...	...	...	1	...	...	...	...	...	...	...
		Female	1	...	1	...	...	...	...	...	...	...	...	...	...
A 23 Meningococcal infections		Male	...	...	...	...	...	...	...	...	...	...	...	...	...
		Female	2	...	...	1	1	...	...	...	...	...	1	...	...
A 29 Acute infectious encephalitis		Male	2	...	...	1	1	...	...	...	...	...	...	...	...
		Female	3	...	...	...	...	...	...	1	...	1	...	...	...
A 30 Late effects of acute poliomyelitis and acute infectious encephalitis		Male	1	...	...	...	...	...	...	...	...	...	...	1	1
		Female	1	...	...	...	...	...	...	...	...	...	...	...	...
A 32 Measles		Male	7	...	1	5	...	...	...	1	...	...	...	2	...
		Female	3	...	...	...	...	1	...	...	...	...	...	...	...
A 34 Infectious hepatitis		Male	4	...	...	...	1	1	...	...	1	...	1	...	...
		Female	6	...	1	1	1	2	...	...	...	...	...	...	...
A 43 All other diseases classified as infective and parasitic		Male	5	...	...	...	2	...	...	...	1	...	1	...	1
		Female	3	...	...	1	...	...	...	...	...	...	2	...	...
II. NEOPLASMS		Total	1651	133	125	148	134	139	117	153	154	124	141	147	136
		Male	940	72	71	83	71	80	73	85	87	61	80	91	86
		Female	711	61	54	65	63	59	44	68	67	63	61	56	50
A 44 Malignant neoplasm of buccal cavity and pharynx		Male	19	1	...	...	3	2	...	...	3	1	2	1	1
		Female	6	1	1	...	...	2	...	1	...	...	...	...	...
A 45 Malignant neoplasm of oesophagus		Male	14	2	2	1	2	2	...	...	1	2	...	2	...
		Female	9	...	...	1	1	2	...	1	2	...	1	...	...
A 46 Malignant neoplasm of stomach		Male	141	8	7	19	11	9	10	21	16	11	9	13	7
		Female	51	5	6	4	3	2	5	6	2	5	4	6	3
A 47 Malignant neoplasm of intestine, except rectum		Male	73	8	3	8	3	9	5	7	10	8	2	8	7
		Female	66	6	9	4	6	7	2	5	7	2	10	5	3
A 48 Malignant neoplasm of rectum		Male	51	2	5	4	3	4	3	4	6	3	7	4	6
		Female	31	5	2	3	4	2	1	...	6	4	...	1	3
A 49 Malignant neoplasm of larynx		Male	8	1	...	1	1	...	1	1	2	...	...	...	...
		Female	...	...	...	...	...	...	...	...	...	...	...	...	...
A 50 Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary		Male	180	11	19	11	15	16	12	12	17	12	17	22	16
		Female	36	4	2	4	3	2	2	...	1	6	7	3	2
A 51 Malignant neoplasm of breast		Male	3	1	...	...	...	...	...	1	1	...	...	...	...
		Female	125	11	10	14	14	4	10	11	17	6	11	7	10
A 52 Malignant neoplasm of cervix uteri		Female	33	...	3	4	3	4	...	6	2	4	2	3	2
A 53 Malignant neoplasm of other and unspecified parts of uterus		Female	24	2	1	2	3	1	1	6	1	1	1	3	2
A 54 Malignant neoplasm of prostate		Male	97	6	4	9	8	15	6	13	2	9	8	5	12
		Female	9	...	...	...	...	1	1	...	2	1	1	1	2
A 55 Malignant neoplasm of skin		Male	14	1	...	2	2	...	...	2	2	4	1	...	...
		Female	10	...	2	1	1	...	...	1	2	...	1	1	1
A 56 Malignant neoplasm of bone and connective tissue		Male	11	1	2	1	1	1	1	1	1	1	...	...	...
		Female	...	...	...	...	...	...	...	...	...	...	...	...	...
A 57 Malignant neoplasm of all other and unspecified sites		Male	211	23	14	14	15	13	22	20	17	13	22	19	19
		Female	222	18	11	17	15	26	16	19	19	24	18	21	18
A Other digestive organs (155-159)		Male	93	11	5	8	8	4	12	7	4	7	11	8	8
		Female	98	9	2	9	7	11	7	11	8	12	7	10	5
B Other respiratory organs (160, 164, 165)		Male	2	...	...	...	...	...	...	...	...	1	...	...	...
		Female	1	...	...	...	...	...	...	...	...	1	...	...	...

TABLE 12—DEATHS BY CAUSE, SEX AND MONTH OF DEATH, ALBERTA, 1963—Continued

CAUSE OF DEATH (Intermediate List)	SEX	Total	MONTHS											
			January	February	March	April	May	June	July	August	September	October	November	December
C Urinary organs (180, 181)	Male	54	5	6	3	3	3	5	8	3	3	6	5	4
	Female	25	2	2	3	3	2	1	1	2	6	4	4	1
D Brain and other parts of nervous system (193)	Male	30	3	2	1	3	5	1	2	6	1	2	1	2
	Female	14	...	3	3	2	1	1	1	1	1	2	3	4
E Other	Male	32	4	1	2	2	1	4	3	4	2	3	2	4
	Female	84	7	7	3	3	13	8	6	8	6	7	3	10
A 58 Leukaemia and aleukaemia	Male	49	3	6	5	6	4	3	3	3	1	6	3	6
	Female	36	1	2	6	3	3	3	5	3	2	2	2	4
A 59 Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system	Male	50	4	3	7	2	5	6	2	5	...	3	5	8
	Female	31	5	3	2	3	1	3	4	3	1	3	2	1
A Hodgkin's disease (201)	Male	11	...	2	...	1	1	2	1	...	1	1	1	2
	Female	7	3	...	...	1	1	1	1	...	1	...	...	...
B Other	Male	39	4	1	7	1	4	4	1	5	...	2	4	6
	Female	24	2	3	2	3	...	2	3	3	...	3	2	1
A 60 Benign neoplasms and neoplasms of unspecified nature	Male	20	2	2	3	1	2	3	...	...	...	2	6	1
	Female	16	1	2	1	2	2	...	1	1	3	1	2	...
III, IV. ALLERGIC DISORDERS AND ENDOCRINE METABOLIC AND BLOOD DISEASES	Total	212	27	16	20	13	30	18	12	19	11	13	18	15
	Male	124	20	9	11	9	16	10	8	12	6	9	6	8
	Female	88	7	7	9	4	14	8	4	7	5	4	12	7
A 61 Nontoxic goitre	Male	...	...	...	...	...	...	...	...	...	...	...	...	...
	Female	1	...	...	...	...	...	...	1	...	...	...	...	...
A 62 Thyrotoxicosis with or without goitre	Male	2	...	...	...	...	...	...	...	...	...	...	1	...
	Female	4	...	...	1	...	1	...	...	...	...	...	...	...
A 63 Diabetes mellitus	Male	59	11	6	2	3	7	4	6	7	1	5	4	3
	Female	51	5	5	5	1	8	5	3	4	2	3	6	4
A 64 Avitaminosis and other deficiency states	Male	2	...	...	...	...	2	...	3	4	...	...	...	...
	Female	2	...	...	...	...	...	...	...	...	...	...	1	...
A 65 Anaemias	Male	13	1	1	4	...	1	...	...	...	...	...	...	1
	Female	10	1	2	1	...	2	1	...	2	2	1	...	1
A 66 Allergic disorders; all other endocrine, metabolic and blood diseases	Male	48	8	2	4	6	6	6	2	3	3	3	1	4
	Female	20	1	...	1	3	3	2	1	1	2	1	3	2
V. MENTAL, PSYCHONEUROTIC, AND PERSONALITY DISORDERS	Total	30	1	3	4	2	3	3	4	2	1	1	3	3
	Male	23	1	2	2	2	1	3	3	1	1	1	3	3
	Female	7	...	1	2	...	2	...	1	1	...	...	...	...
A 67 Psychoses	Male	10	1	...	...	1	1	...	3	1	...	...	1	2
	Female	4	...	...	1	...	1	...	1	1	...	...	...	...
A 68 Psychoneuroses and disorders of personality	Male	9	...	1	2	1	...	2	...	...	1	...	2	...
	Female	2	...	1	1	...	...	...	...	...	...	...	...	...
A 69 Mental deficiency	Male	4	...	1	...	...	...	1	...	...	...	1	...	1
	Female	1	...	...	...	...	...	...	...	...	...	...	...	...
VI. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS	Total	1100	86	93	97	102	96	81	94	84	77	98	79	113
	Male	581	40	44	56	59	52	42	49	50	42	46	45	56
	Female	519	46	49	41	43	44	39	45	34	35	52	34	57
A 70 Vascular lesions affecting central nervous system	Male	505	36	39	51	50	43	36	41	45	37	37	38	52
	Female	488	41	47	41	40	41	37	44	31	33	50	30	53
A 71 Nonmeningococcal meningitis	Male	7	...	1	...	2	1	...	1	1	...	1	...	...
	Female	4	...	...	...	1	...	...	...	2	...	...	...	1
A 72 Multiple sclerosis	Male	3	...	...	...	2	1	...	...	...	...	...	...	...
	Female	2	...	1	...	...	...	...	...	1	...	...	...	...
A 73 Epilepsy	Male	13	1	...	...	1	...	3	2	...	1	3	1	1
	Female	5	2	1	...	...	1	...	...	...	...	1	...	...
A 74 Inflammatory diseases of eye	Male	...	...	...	...	...	...	...	...	...	...	...	...	...
	Female	1	...	...	...	...	...	...	...	...	...	...	...	1
A 77 Otitis media and mastoiditis	Male	1	...	...	...	...	...	...	...	...	...	...	1	...
	Female	1	...	...	...	...	...	...	...	...	...	...	...	1
A 78 All other diseases of the nervous system and sense organs	Male	52	3	4	5	4	7	3	5	4	4	5	5	3
	Female	18	3	...	...	2	3	1	1	...	2	1	4	1
VII. DISEASES OF THE CIRCULATORY SYSTEM	Total	3178	262	242	283	293	280	236	254	236	239	273	296	284
	Male	2072	183	169	188	175	175	141	168	156	164	179	188	186
	Female	1106	79	73	95	118	105	95	86	80	75	94	108	98
A 79 Rheumatic fever	Male	1	...	...	...	...	...	...	...	1	...	...	...	...
	Female	...	...	...	...	...	...	...	...	...	...	...	...	...
A 80 Chronic rheumatic heart disease	Male	36	5	3	...	6	2	1	4	1	4	1	7	2
	Female	56	6	4	2	8	7	4	2	4	4	6	4	5
A 81 Arteriosclerotic and degenerative heart disease	Male	1752	149	142	163	143	148	122	142	135	141	157	159	151
	Female	788	51	52	71	83	78	68	59	62	56	64	80	64
A 82 Other diseases of heart	Male	81	7	6	8	6	10	5	7	4	6	8	7	7
	Female	69	5	4	6	6	5	7	7	6	2	8	6	7
A 83 Hypertension with heart disease	Male	50	4	5	6	4	3	2	4	5	1	3	5	8
	Female	58	6	6	4	10	6	2	6	...	2	5	6	5

TABLE 12—DEATHS BY CAUSE, SEX AND MONTH OF DEATH, ALBERTA, 1963—Continued

CAUSE OF DEATH (Intermediate List)		SEX	Total	MONTHS											
				January	February	March	April	May	June	July	August	September	October	November	December
A 84 Hypertension without mention of heart	Male	16	2	2	2	...	2	...	...	2	...	1	3	2
	Female	22	4	2	2	...	...	...	1	2	1	...	2	...
A 85 Diseases of arteries	Male	110	12	9	7	13	9	8	3	9	6	8	5	15	
	Female	93	7	3	7	8	7	8	9	4	10	8	10	12	
A 86 Other diseases of circulatory system	Male	26	4	2	2	3	1	3	2	2	3	1	2	...	
	Female	20	...	2	3	...	2	3	2	2	...	3	...	...
VIII. DISEASES OF THE RESPIRATORY SYSTEM	Total	670	67	54	52	100	78	44	37	48	41	45	38	66	
	Male	436	47	39	31	65	38	28	31	28	28	25	22	52	
	Female	234	20	15	21	35	40	16	13	17	13	17	13	14	
A 87 Acute upper respiratory infections	Male	3	1	...	...	...	...	...	...	1	...	...	...	1
	Female	2	...	...	1	1	...	...	...	...	...	...	...	...
A 88 Influenza	Male	31	5	2	3	14	4	1	...	1	...	...	...	1
	Female	37	1	2	4	17	11	1	1	...	...	...	...	...
A 89 Lobar pneumonia	Male	21	3	1	1	5	3	2	1	...	3	...	1	1	
	Female	13	1	...	1	2	2	3	1	...	...	1	...	2
A 90 Bronchopneumonia	Male	145	18	11	9	20	12	11	8	10	11	10	9	16	
	Female	110	10	9	9	11	19	8	6	9	8	8	8	5	
A 91 Primary atypical, other and unspecified pneumonia	Male	65	6	4	5	5	7	8	4	3	2	7	4	10	
	Female	34	4	3	2	2	1	1	3	5	2	4	2	5	
A 92 Acute bronchitis	Male	4	...	...	...	...	...	...	...	...	1	2	1	...
	Female	1	...	...	1	...	...	...	...	...	...	...	...	...
A 93 Bronchitis, chronic and unqualified	Male	63	5	9	4	9	6	2	5	6	6	2	4	5	
	Female	6	1	...	...	...	...	1	1	...	1	...	1	1
A 94 Hypertrophy of tonsils and adenoids	Male	1	...	...	...	...	...	1	...	...	...	...	...	...
	Female	1	...	...	...	...	...	...	...	...	...	...	...	...
A 95 Empyema and abscess of lung	Male	6	1	...	...	1	...	1	...	2	...	1	...	...
	Female	...	...	...	...	...	...	...	...	...	...	...	...	...
A 96 Pleurisy	Male	...	...	...	...	...	...	...	...	...	...	...	...	...
	Female	1	...	...	...	...	...	...	1	...	...	...	...	...
A 97 All other respiratory diseases	Male	98	8	12	9	11	6	3	6	8	5	6	6	18	
	Female	29	3	1	3	2	6	2	...	3	2	4	2	1	
IX. DISEASES OF THE DIGESTIVE SYSTEM	Total	354	43	27	35	16	31	35	27	25	23	28	34	30	
	Male	222	32	14	25	7	19	22	17	12	13	19	21	21	
	Female	132	11	13	10	9	12	13	10	13	10	9	13	9	
A 99 Ulcer of stomach	Male	18	...	2	3	...	4	2	2	3	1	1	...	...
	Female	7	...	...	1	2	...	1	...	...	...	1	2	...
A100 Ulcer of duodenum	Male	37	5	1	2	...	1	5	2	1	3	4	6	7	
	Female	2	...	...	...	...	...	1	...	...	...	...	...	1
A101 Gastritis and duodenitis	Male	2	1	...	1	...	...	...	...	...	...	...	...	...
	Female	1	...	...	...	...	1	...	...	...	...	...	...	...
A102 Appendicitis	Male	10	...	1	1	1	1	2	1	1	...	...	1	1
	Female	2	...	...	...	...	...	1	...	...	...	...	1	...
A103 Intestinal obstruction and hernia	Male	27	7	3	2	1	2	...	2	1	...	1	4	4	
	Female	22	2	2	4	2	1	3	...	2	2	1	1	2	
A104 Gastro-enteritis and colitis, except diarrhoea of the newborn	Male	34	8	...	5	1	1	2	4	2	2	5	3	1	
	Female	29	2	2	1	...	4	3	3	2	3	3	5	2	
A105 Cirrhosis of liver	Male	44	6	2	6	2	6	5	3	4	2	3	3	3	
	Female	17	4	...	...	2	2	...	3	2	...	2	...	...
A106 Cholelithiasis and cholecystitis	Male	18	3	3	1	...	...	3	1	1	...	1	3	2
	Female	26	2	2	3	1	4	2	...	2	3	...	3	4	
A107 Other diseases of digestive system	Male	32	2	2	4	2	4	3	2	1	3	5	1	3	
	Female	26	1	5	1	2	...	2	5	4	3	2	1	...	
X. DISEASES OF THE GENITO-URINARY SYSTEM	Total	141	9	11	15	18	14	14	8	12	7	13	10	10	
	Male	92	4	5	8	11	12	10	8	7	...	10	8	9	
	Female	49	5	6	7	7	2	4	...	5	7	3	2	1	
A109 Chronic, other and unspecified nephritis	Male	31	1	2	4	4	4	1	3	2	...	4	4	2	
	Female	25	4	2	4	4	2	...	...	1	4	2	...	...
A110 Infections of kidney	Male	23	1	1	3	1	3	4	2	1	...	3	...	4	
	Female	17	1	3	1	3	...	1	...	2	2	1	2	1	
A111 Calculi of urinary system	Male	4	...	1	...	2	...	...	...	1	...	...	...	...
	Female	2	...	1	1	...	...	...	...	...	...	...	...	...
A112 Hyperplasia of prostate	Male	24	2	1	1	4	3	3	1	3	...	3	2	1	
A114 Other diseases of genito-urinary system	Male	10	...	...	...	...	2	2	...	...	...	2	2	...
	Female	5	...	...	1	...	...	1	...	2	1	...	...	...
XI. DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM	Total	11	1	...	3	1	1	...	...	2	1	...	...	2
A116 Toxaemias of pregnancy and the puerperium	Female	3	...	...	2	...	...	...	...	...	1	...	...	...
A117 Haemorrhage of pregnancy and childbirth	Female	1	1	...	...	...	...	...	...	...	...	...	...	...

TABLE 12—DEATHS BY CAUSE, SEX AND MONTH OF DEATH, ALBERTA, 1963—Continued

		MONTHS												
CAUSE OF DEATH (Intermediate List)	SEX	Total	January	February	March	April	May	June	July	August	September	October	November	December
A119 Abortion with sepsis	Female	4	.....	.....	1	1	1	.....	.....	1	.....	.....	.....	.....
A120 Other complications of pregnancy, childbirth and the puerperium	Female	3	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
XII, XIII. DISEASES OF THE SKIN AND MUSCULO- SKELETAL SYSTEM	Total	34	5	1	4	2	4	2	5	2	3	2	1	.....
	Male	19	4	.....	1	2	2	1	3	2	.....	2	.....	.....
	Female	15	1	1	3	.....	2	1	2	.....	3	.....	1	.....
A121 Infections of skin and subcutaneous tissue	Male	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A122 Arthritis and spondylitis	Female	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
	Male	2	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Female	6	1	.....	2	.....	1	.....	.....	1	.....	.....	.....	.....
A123 Muscular rheumatism and rheumatism unspecified	Male	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A124 Osteomyelitis and periostitis	Female	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A125 Ankylosis and acquired musculoskeletal deformities	Male	1	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
A126 All other diseases of skin and musculoskeletal system	Female	13	1	.....	.....	2	2	1	3	1	.....	2	.....	.....
	Female	6	.....	1	1	.....	.....	1	.....	.....	2	.....	1	.....
XIV. CONGENITAL MALFORMATIONS	Total	179	19	9	18	18	16	16	15	13	10	11	18	16
	Male	87	11	6	11	7	8	7	6	7	7	4	8	5
	Female	92	8	3	7	11	8	9	9	6	3	7	10	11
A127 Spina bifida and meningocele	Male	4	2	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....
A Without hydrocephalus	Female	13	1	.....	3	2	4	.....	1	.....	1	.....	1	.....
B With hydrocephalus	Male	3	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
	Female	3	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
A128 Congenital malformations of circulatory system	Male	10	1	.....	2	2	3	.....	1	.....	.....	.....	1	.....
	Male	43	3	2	6	3	5	5	3	1	4	2	5	4
A129 All other congenital malformations	Female	40	3	.....	2	5	3	7	6	1	1	3	5	4
	Male	40	6	4	4	3	3	2	3	6	3	2	3	1
	Female	39	4	3	2	4	1	2	5	1	4	4	7	.....
XV. CERTAIN DISEASES OF EARLY INFANCY	Total	546	41	39	55	56	49	44	40	50	58	47	42	25
	Male	335	23	26	36	32	32	16	29	38	32	28	27	16
	Female	211	18	13	19	24	17	28	11	12	26	19	15	9
A130 Birth injuries	Male	47	4	4	4	4	5	2	4	7	3	3	4	3
	Female	24	3	2	3	1	3	1	1	6	.....	.....	1	.....
A131 Postnatal asphyxia and atelectasis	Male	86	3	10	10	7	11	5	3	13	7	7	6	4
A132 Infections of the newborn	Female	48	.....	3	5	7	2	11	1	2	4	4	4	5
A133 Haemolytic disease of newborn	Male	21	3	3	3	.....	3	.....	1	.....	5	1	2	.....
	Female	14	1	1	2	2	1	.....	1	1	3	.....	1	1
A134 All other defined diseases of early infancy	Male	11	1	2	2	.....	1	.....	2	2	.....	.....	1	.....
	Female	10	.....	.....	5									

TABLE 12—DEATHS BY CAUSE, SEX AND MONTH OF DEATH, ALBERTA, 1963—Continued

CAUSE OF DEATH (Intermediate List)		SEX	MONTHS													
			Total	January	February	March	April	May	June	July	August	September	October	November	December	
AE140	Accidental poisoning	Male	33	4	3	2	2	3	3	3	2	2	1	5	3	
		Female	8	...	2	...	...	1	...	...	2	1	...	...	2	
AE141	Accidental falls	Male	61	7	4	3	10	7	5	5	3	5	6	2	4	
		Female	38	4	5	2	5	2	2	3	3	1	2	2	7	
AE142	Accident caused by machinery	Male	25	...	1	2	...	2	3	3	6	5	2	1	...	
		Female	...	...	...	...	...	...	...	...	...	...	...	...	...
AE143	Accident caused by fire and explosion of combustible material	Male	28	...	...	2	3	2	4	1	6	2	...	6	2	
		Female	12	1	1	...	...	...	...	...	6	...	...	4	...	
AE144	Accident caused by hot substance, corrosive liquid, steam, and radiation	Male	3	...	...	...	...	2	...	...	...	...	...	1	...	
		Female	1	...	1	...	...	...	...	...	...	...	...	...	...
AE145	Accident caused by firearm	Male	8	...	...	1	...	...	2	...	1	1	...	3	...	
		Female	3	...	...	...	...	...	...	...	...	...	1	...	...
AE146	Accidental drowning	Male	37	...	2	1	3	4	9	5	7	3	2	1	...	
		Female	8	...	...	...	...	1	3	1	2	...	1	...	...
AE147	All other accidental causes	Male	85	10	5	4	8	4	7	4	11	7	6	14	5	
		Female	22	5	3	2	...	3	2	1	2	2	...	2	...	
AE148	Suicide	Male	92	7	5	7	7	10	1	8	7	11	11	11	7	
		Female	15	...	1	1	4	...	...	3	2	...	...	1	3	
AE149	Homicide and injury purposely inflicted by other persons (not in war)	Male	10	2	1	...	1	1	2	...	...	2	...	...	1	
		Female	16	3	2	1	...	5	...	...	1	1	...	3	...	
NXVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO NATURE OF INJURY)			Total	893	59	52	49	64	79	83	82	105	85	75	96	64
		Male	687	42	33	36	53	61	66	63	76	69	68	75	45	...
		Female	206	17	19	13	11	18	17	19	29	16	7	21	19	...
AN138	Fracture of skull	Male	146	4	4	6	10	13	15	16	20	15	15	20	8	...
		Female	38	2	2	3	...	4	3	4	8	4	1	4	3	...
AN139	Fracture of spine and trunk	Male	30	1	1	1	1	2	6	...	...	5	7	2	4	...
		Female	10	1	2	...	1	1	1	2	1	1	...	...	...	...
AN140	Fracture of limbs	Male	39	4	3	2	8	4	3	1	2	4	2	2	4	...
		Female	31	2	4	2	4	2	2	4	2	2	2	1	4	...
AN143	Head injury (excluding fracture)	Male	96	5	7	7	10	12	6	8	9	7	13	8	4	...
		Female	30	4	2	3	2	5	1	...	1	2	2	4	4	...
AN144	Internal injury of chest, abdomen and pelvis	Male	143	12	3	10	7	8	9	17	16	17	19	12	13	...
		Female	34	2	1	3	1	1	5	4	3	4	1	6	3	...
AN145	Laceration and open wounds	Male	17	3	...	1	2	2	2	...	...	2	2	2	1	...
		Female	4	1	...	...	...	2	1	...	...	...	...	...	...	...
AN146	Superficial injury, contusion and crushing with intact skin surface	Male	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Female	2	...	...	...	...	...	...	...	...	...	...	...	...	2
AN147	Effects of foreign body entering through orifice	Male	25	1	1	1	4	1	3	...	4	3	2	2	3	...
		Female	4	...	1	...	...	...	...	...	1	2	...	...	...	...
AN148	Burns	Male	34	...	1	1	3	6	6	1	6	3	...	6	1	...
		Female	13	1	2	...	...	...	...	...	6	...	...	4	...	...
AN149	Effects of poisons	Male	55	5	6	5	3	4	3	5	4	6	2	8	4	...
		Female	13	...	3	...	2	1	...	...	3	1	...	...	...	3
AN150	All other and unspecified effects of external causes	Male	102	7	7	2	5	9	13	15	15	7	6	13	3	...
		Female	27	4	2	2	1	2	4	5	4	...	1	2	...	...

TABLE 13—INFANT DEATHS AND HOSPITAL INFANT DEATHS BY OCCURRENCE AND RESIDENCE FOR CENSUS DIVISIONS, ALBERTA, 1963

CENSUS DIVISIONS	Total Infant Deaths				Infant Deaths in Hospitals			
	Total by Occurrence	Total by Residence	By Occurrence; Residence Elsewhere	By Residence; Occurrence Elsewhere	Total by Occurrence	Total by Residence	By Occurrence; Residence Elsewhere	By Residence; Occurrence Elsewhere
ALBERTA	908	908	15	15	774	776	13	15
Division No. 1	27	27	1	1	25	25	1	1
Division No. 2	54	50	7	3	49	47	5	3
Division No. 3	18	18	2	2	17	17	2	2
Division No. 4	7	8	.....	1	7	8	.....	1
Division No. 5	18	28	.....	10	10	19	.....	9
Division No. 6	198	188	15	5	169	161	13	5
Division No. 7	17	19	1	3	16	18	1	3
Division No. 8	48	60	.....	12	39	49	.....	10
Division No. 9	14	16	1	3	10	12	1	3
Division No. 10	33	38	4	9	28	34	3	9
Division No. 11	305	261	49	5	274	230	49	5
Division No. 12	58	68	4	14	47	57	4	14
Division No. 13	23	22	6	5	19	19	5	5
Division No. 14	6	13	.....	7	6	12	.....	6
Division No. 15	82	92	1	11	58	68	1	11

TABLE 14—INFANT DEATHS AND HOSPITAL INFANT DEATHS BY OCCURRENCE AND RESIDENCE FOR URBAN PLACES OF 1,000 POPULATION AND OVER, ALBERTA, 1963

CITY, TOWN OR VILLAGE	Total Infant Deaths				Infant Deaths in Hospitals			
	Total by Occurrence	Total by Residence	By Occurrence; Residence Elsewhere	By Residence; Occurrence Elsewhere	Total by Occurrence	Total by Residence	By Occurrence; Residence Elsewhere	By Residence; Occurrence Elsewhere
Athabasca	7	3	4	2	7	3	4	2
Barrhead	3	4	1	2	3	4	1	2
Bellevue	1	1	1	1	1	1	1	1
Black Diamond	1	2	1	1	1	1	1	1
Blairmore	4	4	4	4	4	4	4	4
Bonnyville	6	3	5	2	6	3	5	2
Bow Island	1	1	1	1	1	1	1	1
Bowness	1	9	9	9	1	9	9	9
Brooks	6	4	2	6	6	4	2	6
Calgary	184	159	30	5	159	135	29	5
Camrose	6	3	3	6	6	3	3	6
Cardston	4	2	2	4	4	2	2	4
Castor	2	1	1	2	2	1	1	2
Claresholm	1	1	1	1	1	1	1	1
Coaldale	1	1	1	1	1	1	1	1
Cold Lake	10	4	6	10	4	6	10	4
Coleman	1	1	1	1	1	1	1	1
Devon	1	1	1	1	1	1	1	1
Didsbury	1	1	1	1	1	1	1	1
Drayton Valley	8	3	5	6	1	5	6	1
Drumheller	4	3	1	4	3	1	4	3
Edmonton	279	178	104	3	257	160	100	3
Edson	4	4	2	4	4	2	4	2
Fairview	2	2	2	2	2	2	2	2
Fort Macleod	4	2	2	4	2	2	4	2
Fort Saskatchewan	1	3	3	3	3	3	3	3
Grand Centre	1	1	1	1	1	1	1	1
Grande Prairie	19	11	8	2	17	9	8	2
Grimshaw	3	2	1	3	2	1	3	2
Hanna	3	3	3	3	3	3	3	3
High Prairie	14	5	9	13	4	9	13	4
High River	4	3	2	4	3	2	4	3
Hinton	2	1	2	2	1	2	2	1
Innisfail	11	7	4	10	6	4	10	6
Jasper Place	22	22	22	20	2	20	2	20
Lac La Biche	8	6	3	8	6	3	8	6
Lacombe	3	1	2	3	1	2	3	1
Leduc	3	3	1	2	2	1	2	1
Lethbridge	31	22	10	31	22	10	31	22
Lloydminster	2	2	2	2	2	2	2	2
Magrath	1	1	1	1	1	1	1	1
McLennan	6	6	6	6	6	6	6	6
McMurray	3	1	2	3	1	2	3	1
Medicine Hat	26	20	7	25	19	7	25	19
Montgomery	1	2	1	1	1	1	1	1
Nanton	1	1	1	1	1	1	1	1
Okotoks	1	1	1	1	1	1	1	1
Olds	4	2	2	4	2	2	4	2
Peace River	2	2	1	1	2	1	2	1
Pincher Creek	7	2	5	6	1	5	6	1
Ponoka	6	3	3	6	3	3	6	3
Provost	2	2	2	2	2	2	2	2
Raymond	2	2	1	1	2	1	2	1
Redcliff	1	1	1	1	1	1	1	1
Red Deer	16	13	6	16	12	6	16	12
Redwater	2	2	2	2	2	2	2	2
Rimbey	2	3	1	2	1	1	2	1
Rocky Mountain House	2	3	1	2	3	1	2	3
St. Albert	1	4	3	1	3	3	1	3
St. Paul	8	4	5	6	3	4	6	3
Stettler	1	1	1	1	1	1	1	1
Stony Plain	1	1	1	1	1	1	1	1
Sylvan Lake	1	1	1	1	1	1	1	1
Taber	8	6	2	8	6	2	8	6
Three Hills	1	1	1	1	1	1	1	1
Valleyview	4	4	4	4	4	4	4	4
Vegreville	7	5	3	7	5	3	7	5
Vermilion	3	1	2	3	1	2	3	1
Viking	1	1	1	1	1	1	1	1
Vulcan	1	1	1	1	1	1	1	1
Wainwright	4	1	3	4	1	3	4	1
Westlock	3	1	2	3	1	2	3	1
Wetaskiwin	9	6	4	8	5	4	8	5
Whitecourt	3	3	3	2	2	2	2	2

765-768	Other infections of newborn— —Without immaturity —With immaturity Maternal toxæmia— —Without immaturity —With immaturity Erythroblastosis— —Without immaturity —With immaturity Haemorrhagic disease of newborn —Without immaturity —With immaturity Nutritional maladjustment —Without immaturity —With immaturity III-defined diseases peculiar to early infancy— —Without immaturity —With immaturity III-defined and unknown causes All accidents Motor vehicle traffic accidents Accidental falls Accidents caused by fire Inhalation and ingestion of food or other objects Accidental mechanical suffocation Other accidents	1 2 2 2 13 8 4 2 4 2 2 28 69 174 24 43 1 4 16 17 5	1 2 2 2 8 3 3 1 4 2 2 18 39 103 16 24 19 1 1 3 10 7	1 2 2 2 5 5 1 2 1 2 2 6 30 71 8 24 6 3 3 2 2 3	1 1 2 4 1 1 1 1 1 1 1 7 21 60 8 4 1 1 1 1 1	1 1 2 2 5 3 1 2 1 1 1 4 15 2 8 6 2 1 1 1 1 1	1 1 2 4 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 2 1 2 1 1 1 1 1 1 1 1
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[illegible]

TABLE 17—DEATHS AT ALL AGES ACCORDING TO THE INTERNATIONAL INTERMEDIATE LIST OF 150 CAUSES, CANADA, 1963

CAUSE OF DEATH (Intermediate List) (7th Rev.)	Canada		Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories
	1962	1963												
ALL CAUSES	143,699	147,367	3,183	979	6,367	4,815	38,217	53,617	7,928	7,441	9,444	15,029	81	266
I. INFECTIVE AND PARASITIC DISEASES	1,507	1,409	50	5	53	40	567	354	80	50	100	92	2	16
A 1 Tuberculosis of respiratory system	692	674	27	2	25	17	342	140	30	13	30	42	...	6
A 1 Active	617	593	23	2	21	17	325	115	19	8	28	31	...	4
B Inactive (002.2, 008.2)	75	81	4	...	4	...	17	25	11	5	2	11	...	2
A 2 Tuberculosis of meninges and central nervous system	39	26	...	...	2	3	8	4	3	1	2	1	...	2
A 3 Tuberculosis of intestines, peritoneum and mesenteric glands	5	7	...	...	...	...	2	2	1	...	...	...	...	...
A 4 Tuberculosis of bones and joints	13	7	...	...	...	...	...	3	2	...	...	...	...	...
A 5 Tuberculosis, all other forms	36	44	...	...	...	...	...	3	2	...	...	...	...	...
A 6 Congenital syphilis	4	7	...	...	...	...	...	1	1	5	4	4	...	1
A 7 Early syphilis .....	...	...	...	...	1	1	16	9	3	...	1	1	...	...
A 8 Tabes dorsalis .....	...	...	...	...	1	...	...	1	...	...	...	...	...	...
A 9 General paralysis of insane	5	5	...	...	...	...	...	2	...	...	...	...	...	...
A 10 All other syphilis	23	25	3	...	1	...	8	12	...	1	...	...	...	...
A 11 Gonococcal infection	97	80	1	1	4	2	24	21	5	2	14	5	1	...
A 12 Typhoid fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A 13 Paratyphoid fever and other Salmonella infections	2	1	...	...	...	...	...	1	...	...	...	...	...	...
A 14 Cholera	6	11	...	...	...	...	2	8	...	...	...	...	...	...
A 15 Brucellosis (undulant fever)	3	...	...	...	...	...	...	...	...	...	...	...	...	...
A 16 Dysentery, all forms	17	5	...	...	...	...	1	1	...	2	...	...	1	...
A 17 Scarlet fever	3	1	...	...	...	...	...	...	...	...	...	...	...	...
A 18 Streptococcal sore throat	5	4	...	...	...	...	2	1	...	...	...	...	...	...
A 19 Erysipelas	5	3	...	...	1	1	1	1	...	1	...	...	...	...
A 20 Septicaemia and pyaemia	63	50	2	...	3	...	11	14	9	1	2	4	5	...
A 21 Diphtheria	9	7	...	...	...	...	12	6	3	1	3	...	...	...
A 22 Whooping cough	24	28	4	...	...	1	18	6	3	2	2	...	...	...
A 23 Meningococcal infections	40	37	3	...	2	1	8	13	3	2	2	2	...	1
A 24 Plague .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A 25 Leprosy .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A 26 Tetanus	5	6	2	...	1	1	...	2	...	...	...	...	...	...
A 27 Anthrax .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A 28 Acute poliomyelitis .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A 29 Acute infectious encephalitis	7	16	...	...	...	...	16	...	...	...	...	...	...	...
A 30 Late effects of acute poliomyelitis and acute infectious encephalitis	58	45	...	1	3	1	17	12	...	3	4	3	...	1
A 31 Smallpox	24	24	...	...	1	1	6	6	1	1	1	4	...	...
A 32 Measles .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A 33 Yellow fever	81	73	3	...	2	1	25	13	6	10	10	2	...	1
A 34 Infectious hepatitis	130	107	2	...	7	7	28	35	5	1	10	16	1	...

A 35 Rabies	24,876	25,432	511	169	1,122	756	6,849	9,050	1,431	1,185	1,651	2,691	8	9	.....
A 36 Typhus and other rickettsial diseases	24,519	25,077	501	166	1,107	745	6,750	8,941	1,412	1,173	1,615	2,651	8	8	.....
A 37 Malaria	529	506	14	1	14	15	184	163	19	14	25	37	1	1	.....
A 38 Schistosomiasis	423	421	14	1	14	15	172	163	21	20	23	38	1	1	.....
A 39 Filarioid disease	2,735	2,806	103	25	133	105	776	904	136	108	132	260	1	1	.....
A 40 Echinococcosis	2,903	2,939	57	22	165	103	876	1,059	111	108	134	266	1	1	.....
A 41 Ankylostomiasis	1,119	1,153	22	5	52	28	299	437	51	52	82	125	1	1	.....
A 42 Other diseases due to helminths	180	200	3	3	9	7	79	63	6	4	8	21	1	1	.....
A 43 All other diseases classified as infective and parasitic	3,034	3,246	44	11	115	71	766	1,242	207	131	216	442	1	1	.....
II. NEOPLASMS	2,216	2,379	24	9	102	61	704	887	118	99	138	247	1	1	.....
All malignant neoplasms (A44-A59)	668	623	19	5	41	26	167	233	25	13	33	60	1	1	.....
A 44 Malignant neoplasm of buccal cavity and pharynx	466	448	7	4	17	13	159	136	33	22	24	33	1	1	.....
A 45 Malignant neoplasm of oesophagus	1,366	1,329	17	11	65	42	321	439	94	88	97	154	1	1	.....
A 46 Malignant neoplasm of stomach	296	303	10	1	20	10	68	116	17	11	23	27	1	1	.....
A 47 Malignant neoplasm of intestine, except rectum	261	285	8	1	10	8	102	89	9	13	21	24	1	1	.....
A 48 Malignant neoplasm of rectum	6,059	6,091	126	44	270	184	1,545	2,140	372	295	433	672	4	6	.....
A 49 Malignant neoplasm of larynx	2,323	2,277	43	21	90	76	587	776	134	114	191	242	1	2	.....
A 50 Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary	101	96	2	...	5	3	28	37	6	5	3	7	1	1	.....
A 51 Malignant neoplasm of breast	1,264	1,273	23	10	72	41	306	442	85	55	79	158	2	2	.....
A 52 Malignant neoplasm of cervix uteri	657	695	11	2	24	15	192	250	46	39	44	72	1	4	.....
A 53 Malignant neoplasm of other and unspecified parts of uterus	1,714	1,750	47	11	79	49	432	635	101	82	116	193	1	4	.....
A 54 Malignant neoplasm of prostate	1,126	1,160	26	10	36	31	282	420	69	85	85	115	1	1	.....
A 55 Malignant neoplasm of skin	1,138	1,188	7	16	37	24	317	439	72	64	81	130	1	1	.....
A 56 Malignant neoplasm of bone and connective tissue	238	280	5	4	11	4	68	105	22	15	18	28	1	1	.....
A 57 Malignant neoplasm of all other and unspecified sites	900	908	2	12	26	20	249	334	50	49	63	102	1	1	.....
B Other	357	355	10	3	15	11	99	109	19	12	36	40	1	1	.....
C Urinary organs (180, 181)	3,573	3,814	52	16	185	127	1,368	1,181	154	226	212	291	1	1	.....
D Brain and other parts of nervous system (193)	9	18	...	...	...	...	...	...	...	...	...	...	1	1	.....
E Leukaemia and leukaemia	41	18	...	...	...	...	...	...	...	...	...	...	1	1	.....
A 58 Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system	2,169	2,302	30	3	120	83	861	714	89	130	110	162	1	1	.....
A 59 Hodgkin's disease (201)	335	359	7	3	6	28	113	136	3	4	6	1	1	1	.....
A 60 Benign neoplasms and neoplasms of unspecified nature	335	359	7	3	6	28	113	136	3	4	6	1	1	1	.....
III. IV. ALLERGIC DISORDERS AND ENDOCRINE, METABOLIC AND BLOOD DISEASES	960	1,003	12	9	43	31	354	295	39	64	68	87	1	1	.....
A 61 Nontoxic goitre	432	474	5	5	17	16	162	168	18	15	30	37	1	1	.....
A 62 Thyrotoxicosis with or without goitre	184	190	2	2	4	3	50	81	7	7	14	20	1	1	.....
A 63 Diabetes mellitus .....	...	...	...	...	...	...	...	...	...	...	...	...	1	1	.....
A 64 Avitaminosis and other deficiency states .....	...	...	...	...	...	...	...	...	...	...	...	...	1	1	.....
A 65 Anacemias .....	...	...	...	...	...	...	...	...	...	...	...	...	1	1	.....
A 66 Allergic disorders; all other endocrine metabolic and blood diseases .....	...	...	...	...	...	...	...	...	...	...	...	...	1	1	.....
V. MENTAL, PSYCHONEUROTIC, AND PERSONALITY DISORDERS .....	...	...	...	...	...	...	...	...	...	...	...	...	1	1	.....
A 67 Psychoses .....	...	...	...	...	...	...	...	...	...	...	...	...	1	1	.....

TABLE 17.—DEATHS AT ALL AGES ACCORDING TO THE INTERNATIONAL INTERMEDIATE LIST OF 150 CAUSES, CANADA, 1963
(Continued)

CAUSE OF DEATH (Intermediate List) (7th Rev.)	Canada		Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories
	1962	1963												
A 68 Psychoneuroses and disorders of personality	133	161	...	2	2	10	40	68	6	6	11	15	...	1
A 69 Mental deficiency	115	123	3	1	11	3	72	19	5	2	5	2	...	...
VI. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS	17,015	17,136	409	111	900	554	3,914	6,553	954	832	1,100	1,784	6	19
A 70 Vascular lesions affecting central nervous system	15,300	15,410	361	103	821	497	3,314	6,050	870	752	993	1,638	4	7
A 71 Nonmeningococcal meningitis	193	178	7	1	9	4	65	38	8	4	11	23	...	8
A 72 Multiple sclerosis	197	180	3	...	8	4	66	53	11	14	5	16	...	...
A 73 Epilepsy	278	241	4	1	11	11	97	61	13	10	18	13	...	2
A 74 Inflammatory diseases of eye	3	1	...	...	...	...	...	...	...	...	1	...	...	...
A 75 Glaucoma	4	1	...	...	...	...	...	...	...	...	...	...	...	...
A 76 Cataract	1	3	...	...	...	...	1	2	...	...	...	...	...	...
A 77 Otitis media and mastoiditis	113	82	...	3	3	8	45	14	3	...	2	...	...	...
A 78 All other diseases of the nervous system and sense organs	929	1,040	34	6	48	30	326	335	49	52	70	86	2	2
VII. DISEASES OF THE CIRCULATORY SYSTEM	55,915	57,088	968	420	2,432	1,886	13,938	22,261	2,959	2,909	3,178	6,201	18	18
A 79 Rheumatic fever	49	39	...	1	...	...	17	10	4	2	1	4	...	...
A 80 Chronic rheumatic heart disease	1,347	1,403	32	309	6	26	414	511	65	70	92	136	...	1
A 81 Arteriosclerotic and degenerative heart disease	44,438	45,627	573	309	1,842	1,512	10,630	18,595	2,342	2,172	2,540	5,092	12	8
A 82 Other diseases of heart	2,147	2,184	96	20	124	86	580	619	115	181	150	204	2	1
A 83 Hypertension with heart disease	2,995	2,858	80	40	128	92	1,028	908	104	135	108	232	2	...
A 84 Hypertension without mention of heart	876	770	24	8	49	21	297	215	31	32	38	55	...	...
A 85 Diseases of arteries	3,404	3,516	54	32	211	129	843	1,183	214	255	203	390	2	...
A 86 Other diseases of circulatory system	659	691	9	4	28	20	129	220	84	62	46	88	1	...
VIII. DISEASES OF THE RESPIRATORY SYSTEM	8,319	9,823	283	72	414	345	1,964	3,507	832	691	670	976	7	52
A 87 Acute upper respiratory infections	88	99	1	1	6	2	23	36	3	5	5	15	1	1
A 88 Influenza	572	1,183	36	31	65	71	322	367	86	109	68	25	3	3
A 89 Lobar pneumonia	552	569	24	6	18	21	76	224	57	41	34	65	2	1
A 90 Bronchopneumonia	3,326	3,702	109	8	124	132	615	1,428	403	264	255	350	2	14
A 91 Primary atypical, other and unspecified pneumonia	1,377	1,511	76	15	83	57	199	551	82	101	99	217	4	27
A 92 Acute bronchitis	107	90	2	2	6	2	20	34	5	7	5	7	...	...

A 93 Bronchitis, chronic and unqualified	816	976	18	5	47	20	287	325	65	54	69	84	2
A 94 Hypertrophy of tonsils and adenoids	21	11	...	...	1	...	4	5	...	...	1	...	...
A 95 Empyema and abscess of lung	78	67	2	...	1	...	13	28	7	5	6	5	...
A 96 Pleurisy	45	36	...	...	3	...	17	8	1	3	1	1	...
A 97 All other respiratory diseases	1,337	1,519	25	4	60	38	388	501	123	102	127	207	4
IX. DISEASES OF THE DIGESTIVE SYSTEM													
A 98 Diseases of teeth and supporting structures	5,231	5,489	128	25	222	158	1,516	1,929	302	290	354	548	15
A 99 Ulcer of stomach	5	9	...	1	1	18	4	2	...	...	...	1	...
A100 Ulcer of duodenum	491	490	9	1	20	18	142	170	15	24	25	66	...
A101 Gastritis and duodenitis	443	462	5	3	17	9	82	199	22	39	59	...	...
A102 Appendicitis	21	36	1	...	1	2	12	8	1	5	3	5	...
A103 Intestinal obstruction and hernia	157	139	4	...	2	3	41	50	1	5	1	12	...
A104 Gastro-enteritis and colitis, except diarrhoea of the newborn	862	975	15	3	42	33	238	369	75	57	49	92	2
A105 Cirrhosis of liver	868	880	64	2	45	24	243	244	47	67	63	70	11
A106 Cholelithiasis and cholecystitis	1,052	1,093	10	3	31	21	334	432	64	29	61	107	...
A107 Other diseases of digestive system	540	581	7	3	23	22	184	182	24	36	44	55	1
	792	824	13	8	40	22	236	273	49	42	58	81	2
X. DISEASES OF THE GENITO-URINARY SYSTEM													
A108 Acute nephritis	2,839	3,029	45	21	126	120	1,047	959	131	136	141	239	2
A109 Chronic, other and unspecified nephritis	65	58	...	...	1	5	30	15	2	1	...	4	...
A110 Infections of kidney	1,397	1,311	19	14	59	70	563	359	42	44	56	84	1
A111 Calculi of urinary system	599	702	15	4	29	19	165	230	44	44	40	110	2
A112 Hyperplasia of prostate	118	103	...	...	4	3	23	42	7	9	6	9	...
A113 Diseases of breast	438	512	7	2	20	18	137	199	25	25	24	54	1
A114 Other diseases of genito-urinary system	...	1	...	...	...	...	...	...	...	1	...	...	...
	282	342	4	1	13	5	129	114	11	12	15	38	...
XI. DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILDBIRTH AND THE PUERPERUM													
A115 Sepsis of pregnancy, childbirth and the puerperium	191	165	7	3	2	6	61	46	10	7	11	11	1
A116 Toxaemia of pregnancy and the puerperium	28	19	1	1	...	...	11	4	1	...	...	1	...
A117 Haemorrhage of pregnancy and childbirth	25	28	...	...	2	2	11	7	2	...	3	1	...
A118 Abortion without mention of sepsis or toxæmia	45	31	2	1	1	1	11	7	3	2	1	3	...
A119 Abortion with sepsis	8	4	...	...	...	...	6	9	...	2	...	2	...
A120 Other complications of pregnancy, childbirth and the puerperium	15	21	...	1	...	3	22	19	3	3	3	3	1
	70	62	4	1	...	...	...	...	...	...	...	...	...
XII. XIII. DISEASES OF THE SKIN AND MUSCULOSKELETAL SYSTEM													
A121 Infections of skin and subcutaneous tissue	571	602	11	2	30	9	192	217	28	22	34	57	...
A122 Arthritis and spondylitis	59	52	1	...	1	1	9	25	2	...	3	10	...
A123 Muscular rheumatism and rheumatism unspecified	226	262	5	...	16	3	82	92	17	11	8	28	...
A124 Osteomyelitis and periostitis	9	9	...	...	...	...	6	1	1	...	1	1	...
A125 Ankylosis and acquired musculoskeletal deformities	7	14	...	...	1	...	...	5	...	1	1	1	...
A126 All other diseases of skin and musculoskeletal system	8	11	...	2	12	1	4	4	...	10	2	...	...
	262	254	5	...	...	4	86	90	8	...	19	18	...

DIVISION OF VITAL STATISTICS

TABLE 17—DEATHS AT ALL AGES ACCORDING TO THE INTERNATIONAL INTERMEDIATE LIST OF 150 CAUSES, CANADA, 1963
(Continued)

CAUSE OF DEATH (Intermediate List) (7th Rev.)	Canada		Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories
	1962	1963												
XIV. CONGENITAL MALFORMATIONS	2,896	2,699	94	14	128	107	922	855	119	103	179	167	3	8
A127 Spina bifida and meningocele ^a	446	407	15	4	19	17	169	119	18	12	17	17	...	...
A Without hydrocephalus	194	183	3	1	10	5	88	51	4	2	4	10	...	...
B With hydrocephalus	252	224	7	3	9	12	81	68	14	10	13	7	...	...
A128 Congenital malformations of circulatory system	1,246	1,197	36	6	51	43	397	387	49	56	83	84	1	5
A129 All other congenital malformations ^a	1,204	1,095	43	4	58	47	356	349	52	36	79	66	2	3
XV. CERTAIN DISEASES OF EARLY INFANCY	7,316	7,040	271	34	249	228	2,328	2,156	309	354	546	502	6	57
A130 Birth injuries	1,338	1,232	39	7	28	31	457	366	84	62	71	81	1	5
A131 Postnatal asphyxia and atelectasis	1,475	1,368	51	5	34	30	396	462	61	70	134	115	2	8
A132 Infections of the newborn	526	477	51	4	17	10	168	111	21	19	35	38	...	7
A133 Haemolytic disease of newborn	338	292	7	...	11	15	113	83	7	13	21	18	...	...
A134 All other defined diseases of early infancy	240	205	10	3	13	6	75	49	10	11	14	13	...	1
A135 Ill-defined diseases peculiar to early infancy, and immaturity unqualified	3,399	3,466	113	15	146	136	1,119	1,085	126	179	271	237	3	36
XVI. SYMPTOMS, SENILITY AND ILL-DEFINED CONDITIONS	1,277	1,229	186	8	34	70	247	169	33	54	345	63	1	19
A136 Senility without mention of psychosis	525	516	94	2	17	41	91	74	16	42	110	22	...	7
A137 Ill-defined and unknown causes	752	713	92	6	17	29	156	95	17	12	235	41	1	12
EXVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO EXTERNAL CAUSE)	11,681	11,938	253	74	453	393	3,142	4,212	568	567	893	1,310	25	48
AET138 Motor vehicle accidents	4,325	4,451	80	26	171	171	1,439	1,463	189	182	350	371	7	2
A Traffic accidents (810-825)	4,224	4,367	78	26	165	166	1,424	1,432	187	178	339	363	7	2
B Non-traffic accidents	101	84	2	...	6	5	15	31	2	4	11	8	...	...
AET139 Other transport accidents	508	655	19	4	34	21	121	255	38	29	38	82	6	8
A Drowning involving small boats (850)	248	271	15	2	25	13	55	90	19	10	13	24	2	3
B Drowning involving other water craft (851)	19	20	...	1	1	1	4	...	1	2	...	10	...	...
C Other transport	241	364	4	1	8	7	62	165	18	17	25	48	...	5

AE140 Accidental poisoning	396	384	3	5	19	5	58	137	16	18	41	82	...	...	...	2
AE141 Accidental falls	1,594	1,564	29	9	65	51	355	651	57	78	99	168	...	...	...	...
AE142 Accidental caused by machinery	225	236	5	2	...	13	63	69	17	18	25	24	...	...	...	...
AE143 Accident caused by fire and explosion of combustible material	658	584	15	8	19	23	144	211	35	40	62	...	...	...	...	5
AE144 Accident caused by hot substance, corrosive liquid, steam and radiation	42	42	3	...	3	...	13	7	4	3	4	4	...	...	...	1
AE145 Accident caused by firearm	189	150	6	...	8	6	37	44	9	12	11	16	...	...	...	1
AE146 Accidental drowning	820	839	23	5	35	305	223	...	35	26	45	94	...	...	...	9
AE147 All other accidental causes	1,327	1,350	49	9	49	36	280	490	72	82	107	155	...	...	...	17
All accidental causes	10,084	10,255	232	68	403	361	2,815	3,550	472	470	760	1,058	21	45		
AE148 Suicide	1,331	1,436	16	6	46	29	262	574	81	91	107	221	2	1		
AE149 Homicide and injury purposely inflicted by other persons (not in war)	259	244	5	...	4	3	65	86	15	6	26	30	2	2		
AE150 Injury resulting from operations of war	7	3	...	...	...	...	...	2	...	...	...	1	...	...
NXVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO NATURE OF INJURY)	11,681	11,938	253	74	453	383	3,142	4,212	568	567	893	1,310	25	48		
AN138 Fracture of skull	2,635	2,730	39	17	84	97	999	867	92	86	184	259	3	3		
AN139 Fracture of spine and trunk	722	669	12	1	31	24	193	233	32	26	40	75	2	...		
AN140 Fracture of limbs	1,124	1,055	26	10	41	42	240	436	42	55	70	103	...	...
AN141 Dislocation without fracture	8	8	...	...	1	1	2	4	...	...	...	...	...	...
AN142 Sprains and strains of joints and adjacent muscles	2	2	...	...	...	...	...	...	...	...	...	...	...	...
AN143 Head injury (excluding fracture)	1,025	1,129	20	4	58	37	263	375	58	77	126	107	1	3		
AN144 Internal injury of chest, abdomen and pelvis	1,724	1,914	32	10	55	66	382	767	110	119	177	191	3	2		
AN145 Laceration and open wounds	194	191	3	3	10	2	32	71	4	11	21	33	...	...
AN146 Superficial injury, contusion and crushing with intact skin surface	17	20	...	...	...	...	...	...	...	...	...	...	...	...
AN147 Effects of foreign body entering through orifice	482	462	27	3	12	10	70	205	7	3	2	1	...	...
AN148 Burns	560	493	13	8	25	14	111	172	28	22	47	43	4	6		
AN149 Effects of poisons	941	984	8	8	30	25	184	369	53	46	68	192	1	...		
AN150 All other and unspecified effects of external causes	2,247	2,281	73	10	106	75	659	714	121	87	129	268	11	28		

1 Effective 1962, deaths where the underlying cause was reported as 'inactive' 'healed' or 'arrested' pulmonary tuberculosis were classified to tuberculosis; formerly such deaths were classified to the resulting pulmonary condition.

■ Due to changes in classification, 1962 figures are not strictly comparable with previous year.

TABLE 18—DEATH RATES PER 100,000 POPULATION AT ALL AGES ACCORDING TO THE INTERNATIONAL INTERMEDIATE LIST OF 150 CAUSES, CANADA, 1963

CAUSE OF DEATH (Intermediate List) (7th Rev.)	Canada		Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories
	1962	1963												
ALL CAUSES	773.8	779.9	661.7	915.0	842.2	784.2	698.9	831.5	834.5	797.5	672.2	886.7	540.0	1108.3
I. INFECTIVE AND PARASITIC DISEASES	8.1	7.5	10.4	4.7	7.0	6.5	10.4	5.5	8.4	5.4	7.1	5.4	13.3	66.7
A 1 Tuberculosis of respiratory system	3.7	3.6	5.6	1.9	3.3	2.8	6.3	2.2	3.2	1.4	2.1	2.5	25	25.0
A A Active	3.3	3.1	4.8	1.9	2.8	2.8	5.9	1.8	2.0	0.9	2.0	1.8	16.7	16.7
A B Inactive (002.2, 008.2) ¹	0.4	0.4	0.8	—	0.5	—	0.3	0.4	1.2	0.5	0.1	0.6	8.3	8.3
A 2 Tuberculosis of meninges and central nervous system	0.2	0.1	—	—	0.3	0.5	0.1	0.1	0.1	0.1	0.1	0.1	—	8.3
A 3 Tuberculosis of intestines, peritoneum and mesenteric glands	—	—	—	—	—	—	—	—	—	—	—	—	—	—
A 4 Tuberculosis of bones and joints	0.1	*	—	—	—	—	*	*	0.1	0.1	—	—	—	—
A 5 Tuberculosis, all other forms	0.2	0.2	—	—	0.1	0.2	0.3	0.1	0.3	0.5	0.3	0.2	—	4.2
A 6 Congenital syphilis	*	*	—	—	0.1	0.1	*	*	—	0.1	0.1	—	—	—
A 7 Enteric fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—
A 8 Typhoid fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—
A 9 General paralysis of insane	0.1	0.1	0.6	—	0.1	—	*	*	—	0.1	—	—	—	—
A 10 All other syphilis	0.5	0.4	0.2	0.9	0.5	0.3	0.4	0.3	0.5	0.2	1.0	0.3	6.7	—
A 11 Gonococcal infection	—	—	—	—	—	—	—	—	—	—	—	—	—	—
A 12 Typhoid fever	—	*	—	—	—	—	—	*	—	—	—	—	—	—
A 13 Paratyphoid fever and other Salmonella infections	—	*	—	—	—	—	*	—	0.1	—	—	0.1	—	—
A 14 Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—	—
A 15 Brucellosis (undulant fever)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
A 16 Dysentery, all forms	0.1	*	—	—	—	—	*	*	—	0.2	—	—	—	4.2
A 17 Scarlet fever	—	*	—	—	—	—	—	—	—	0.1	—	—	—	—
A 18 Streptococcal sore throat	—	*	—	—	0.1	—	*	*	—	—	—	—	—	—
A 19 Erysipelas	—	*	—	—	—	—	—	—	—	—	—	—	—	—
A 20 Septicaemia and pyaemia	0.3	0.3	0.4	—	0.4	0.2	0.2	0.2	0.9	0.2	0.3	0.3	—	—
A 21 Diphtheria	*	*	—	—	—	—	—	—	0.1	0.1	0.2	—	—	—
A 22 Whooping cough	0.1	0.1	0.8	—	—	0.2	0.2	0.1	0.3	0.1	0.2	—	—	—
A 23 Meningococcal infections	0.2	0.2	0.6	—	0.3	0.2	0.1	0.2	0.3	0.2	0.1	0.1	—	4.2
A 24 Plague	—	—	—	—	—	—	—	—	—	—	—	—	—	—
A 25 Leprosy	—	*	0.4	—	—	—	—	*	—	—	—	—	—	—
A 26 Tetanus	—	—	—	—	0.1	0.2	—	—	—	—	—	—	—	—
A 27 Anthrax	—	—	—	—	—	—	—	—	—	—	—	—	—	—
A 28 Acute poliomyelitis	*	0.1	—	—	—	0.3	0.3	—	—	—	—	—	—	—
A 29 Acute infectious encephalitis	0.3	0.2	—	0.9	0.4	0.2	0.1	0.2	0.3	0.3	0.3	0.2	—	4.2
A 30 Late effects of acute poliomyelitis and acute infectious encephalitis	0.1	0.1	—	—	0.1	0.2	0.1	0.1	0.1	0.1	0.3	0.2	—	—

A 31 Smallpox	0.4	0.4	0.6	0.3	0.2	0.5	0.2	0.6	1.1	0.7	0.1	4.2
A 32 Measles	0.4	0.4	0.6	0.3	0.2	0.5	0.2	0.6	1.1	0.7	0.1	4.2
A 33 Yellow fever	0.7	0.6	0.4	0.3	1.1	0.5	0.5	0.5	0.1	0.7	0.9	6.7
A 34 Infectious hepatitis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 35 Rabies	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 36 Typhus and other rickettsial diseases	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 37 Malaria	*	*	.....	.....	.....	*	*	.....	.....	.....	0.1	.....
A 38 Schistosomiasis	*	*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 39 Hydatid disease	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 40 Filariasis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 41 Ankylostomiasis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A 42 Other diseases due to helminths	*	*	.....	.....	.....	.....	.....	.....	.....	.....	.....	8.3
A 43 All other diseases classified as infective and parasitic	0.6	0.6	0.6	0.9	0.5	0.6	0.7	0.6	0.3	0.6	0.3	4.2
II. NEOPLASMS												
All malignant neoplasms (A44-A59)												
A 44 Malignant neoplasm of buccal cavity and pharynx	132.0	132.7	104.2	155.1	146.4	121.3	123.4	138.7	148.6	125.7	114.9	53.3
A 45 Malignant neoplasm of oesophagus	2.8	2.7	2.9	0.9	3.2	2.4	2.4	3.5	2.5	1.5	1.8	33.3
A 46 Malignant neoplasm of stomach	2.3	2.2	2.9	0.9	1.5	2.2	1.9	2.7	2.2	2.1	1.6	.....
A 47 Malignant neoplasm of intestine, except rectum	14.7	14.8	21.4	23.4	17.6	17.1	14.1	14.0	16.6	16.7	13.7	.....
A 48 Malignant neoplasm of rectum	13.6	13.6	11.9	20.6	16.8	16.8	16.0	14.8	11.4	10.2	15.7	6.7
A 49 Malignant neoplasm of larynx	6.0	6.1	4.6	4.7	6.9	4.6	3.5	6.8	5.4	5.6	5.8	.....
A 50 Malignant neoplasm of trachea, and of bronchus and lung	1.0	1.1	0.6	.....	1.2	1.1	1.4	1.0	0.6	0.4	0.6	.....
A 51 Malignant neoplasm of breast	16.3	17.2	9.1	10.3	15.2	11.6	14.0	19.3	21.8	14.0	15.4	4.2
A 52 Malignant neoplasm of cervix uteri ²	11.9	12.6	5.0	8.4	13.5	9.9	12.9	13.8	12.4	10.6	9.1	.....
A 53 Malignant neoplasm of other and unspecified parts of uterus ²	7.3	6.7	8.1	9.6	11.0	8.6	6.1	7.3	5.3	4.9	4.6	.....
A 54 Malignant neoplasm of prostate ³	5.1	4.8	3.0	7.6	4.6	4.3	5.8	4.2	7.0	4.9	3.5	15.2
A 55 Malignant neoplasm of skin	14.6	13.9	6.9	20.1	16.9	13.5	11.7	13.6	19.5	18.3	13.4	11.9
A 56 Malignant neoplasm of bone and connective tissue	1.6	1.6	2.1	0.9	2.6	1.2	1.8	1.8	1.8	1.2	1.6	.....
A 57 Malignant neoplasm of all other and unspecified sites	1.4	1.5	1.7	0.9	1.3	1.3	1.9	1.4	0.9	1.4	1.5	.....
A 58 Other digestive organs (155-159)	32.6	32.2	26.2	41.1	35.7	30.0	28.3	33.2	39.2	31.6	30.8	25.0
B Other respiratory organs (160, 164, 165)	12.5	12.1	8.9	19.6	11.9	12.4	10.7	12.0	14.1	12.2	13.6	6.7
C Urinary organs (180, 181)	0.5	0.5	0.4	.....	0.7	0.5	0.6	0.6	0.6	0.5	0.2	8.3
D Brain and other parts of nervous system (193)	6.8	6.7	4.8	9.3	9.5	6.7	5.6	6.9	8.9	5.9	5.6	.....
E Other	3.5	3.7	2.3	1.9	3.2	2.4	3.5	3.9	4.8	4.2	3.1	.....
A 59 Leukaemia and aleukemia	9.2	9.3	10.3	10.4	8.0	7.9	9.8	10.6	8.8	8.3	11.4	16.7
A 60 Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system	6.1	6.1	5.4	9.3	4.8	5.0	5.2	6.5	7.3	9.1	6.0	.....
A Hodgkin's disease (201)	6.1	6.1	5.4	9.3	4.8	5.0	5.2	6.5	7.3	9.1	6.0	6.7
B Other	6.1	6.3	1.5	15.0	4.9	3.9	5.8	6.8	7.6	6.9	5.8	.....
A 60 Benign neoplasm and neoplasms of unspecified nature	1.3	1.5	1.0	3.7	1.5	0.7	1.2	1.6	2.3	1.6	1.3	4.2
.....	4.8	4.8	0.4	11.2	3.4	3.3	4.6	5.2	5.3	4.5	6.0	.....
.....	1.9	1.9	2.1	2.8	2.0	1.8	1.8	1.7	2.0	1.3	2.6	4.2
III, IV. ALLERGIC DISORDERS AND ENDOCRINE, METABOLIC AND BLOOD DISEASES												
A 61 Nontoxic goitre	19.2	20.2	10.8	15.0	24.5	20.7	25.0	18.3	46.2	24.2	15.1	4.2
A 62 Thyrotoxicosis with or without goitre	*	0.1	.....	.....	0.3	0.2	0.2	0.1	0.2	0.1	0.1	.....
A 63 Diabetes mellitus	0.2	0.2	6.2	2.8	13.9	13.5	15.7	11.1	9.4	13.9	7.8	.....
A 64 Avitaminosis and other deficiency states	11.7	12.2	0.6	0.8	0.8	.....	0.5	0.1	0.6	0.3	0.4	6.7
A 65 Anaemias	0.3	0.5	1.5	2.8	1.9	2.0	2.0	1.8	1.7	2.8	1.6	.....
.....	1.8	1.9	1.5	2.8	1.9	2.0	2.0	1.8	1.7	2.8	1.6	.....

TABLE 18—DEATH RATES PER 100,000 POPULATION AT ALL AGES ACCORDING TO THE INTERNATIONAL INTERMEDIATE LIST OF 150 CAUSES, CANADA, 1963 (Continued)

CAUSE OF DEATH (Intermediate List) (7th Rev.)	Canada		Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories
	1962	1963												
A 66 Allergic disorders; all other endocrine metabolic and blood diseases	5.2	5.3	2.5	8.4	5.7	5.0	6.5	4.6	4.1	6.9	4.8	5.1	...	4.2
V. MENTAL, PSYCHONEUROTIC, AND PERSONALITY DISORDERS	2.3	2.5	1.0	4.7	2.2	2.6	3.0	2.6	1.9	1.6	2.1	2.2	...	4.2
A 67 Psychoses	1.0	1.0	0.4	1.9	0.5	0.5	0.9	1.3	0.7	0.8	1.0	1.2	...	...
A 68 Psychoneuroses and disorders of personality	0.7	0.9	0.7	1.9	0.3	1.6	0.7	1.1	0.6	0.6	0.8	0.9	...	4.2
A 69 Mental deficiency	0.6	0.7	0.6	0.9	1.5	0.5	1.3	0.3	0.5	0.2	0.4	0.1	...	...
VI. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS	91.6	90.7	85.0	103.7	119.0	90.2	71.6	101.6	100.4	89.2	78.3	105.3	40.0	79.2
A 70 Vascular lesions affecting central nervous system	82.4	81.6	75.1	96.3	108.6	80.9	60.6	93.8	91.6	80.6	70.7	96.6	26.7	29.2
A 71 Nonmeningococcal meningitis	1.0	0.9	1.5	0.9	1.2	0.7	1.2	0.6	0.8	0.4	0.8	1.4	...	33.3
A 72 Multiple sclerosis	1.1	1.0	0.6	1.1	1.1	0.7	1.2	0.8	1.2	1.5	0.4	0.9	...	...
A 73 Epilepsy	1.5	1.3	0.8	0.9	1.5	1.8	1.8	0.9	1.4	1.1	1.3	0.8	...	8.3
A 74 Inflammatory diseases of eye .....	*	*	...	...	...	...	...	...	...	...	0.1	...	...	...
A 75 Cataract .....	*	*	...	...	...	...	...	...	...	...	...	0.1	...	...
A 76 Glaucoma .....	*	*	...	...	...	...	...	...	...	...	...	...	...	...
A 77 Otitis media and mastoiditis	0.6	0.4	...	...	0.4	1.3	0.8	0.2	0.3	...	0.1	0.4	...	...
A 78 All other diseases of the nervous system and sense organs	5.0	5.5	7.1	5.6	6.3	4.9	6.0	5.2	5.2	5.6	5.0	5.1	13.3	8.3
VII. DISEASES OF THE CIRCULATORY SYSTEM	301.1	302.1	180.5	302.5	321.7	307.2	254.9	345.2	311.5	311.8	226.2	385.8	120.0	75.0
A 79 Rheumatic fever	0.3	0.2	...	0.9	...	...	0.3	0.2	0.4	0.2	0.1	0.2	...	...
A 80 Chronic rheumatic heart disease	7.3	7.4	6.7	5.6	6.6	4.9	7.6	7.7	7.6	7.2	6.5	8.0	...	4.2
A 81 Arteriosclerotic and degenerative heart disease	29.3	241.5	119.1	288.8	243.7	246.3	104.6	283.9	246.3	222.8	180.8	300.4	80.0	33.3
A 82 Other diseases of heart	11.6	11.6	20.0	18.7	16.4	14.0	10.6	14.1	10.9	14.5	10.7	13.7	13.3	33.3
A 83 Hypertension with heart disease	16.1	15.1	16.6	37.4	16.9	15.0	18.8	14.1	10.9	14.5	10.7	13.7	13.3	4.2
A 84 Hypertension without mention of heart	4.7	4.1	5.0	7.5	6.5	3.4	5.4	3.3	3.3	3.4	2.7	3.2	...	...
A 85 Diseases of arteries	18.3	18.6	11.2	29.9	27.9	21.0	15.4	18.3	22.5	27.3	14.4	23.0	13.3	...
A 86 Other diseases of circulatory system	3.5	3.7	1.9	3.7	3.7	3.3	2.4	3.4	8.8	6.6	3.3	5.2	6.7	...
VIII. DISEASES OF THE RESPIRATORY SYSTEM	44.8	52.0	60.9	67.3	54.8	56.2	35.9	54.4	87.6	74.1	47.7	57.6	46.7	216.7
A 87 Acute upper respiratory infections	0.5	0.5	0.2	0.9	0.8	0.3	0.4	0.6	0.3	0.5	0.4	0.9	6.7	4.2

A 88 Influenza	3.1	6.3	7.5	29.0	8.6	11.6	5.9	5.7	9.1	11.7	4.8	1.5	12.5
A 89 Lobar pneumonia	3.0	19.6	5.0	5.6	2.4	3.4	1.4	3.5	6.0	4.4	2.4	3.8	4.2
A 90 Bronchopneumonia	17.9	22.7	7.5	7.5	16.4	21.5	11.2	22.1	42.4	28.3	18.1	20.6	58.3
A 91 Primary atypical, other and unspecified pneumonia	7.4	8.0	15.8	14.0	11.0	9.3	3.6	8.5	0.3	0.8	7.0	12.8	112.5
A 92 Acute bronchitis	0.6	0.5	0.4	1.9	0.8	0.3	0.1	5.0	0.3	0.8	0.4	0.4	...
A 93 Bronchitis, chronic and unqualified	4.4	5.2	3.7	4.7	6.2	3.3	5.2	0.1	6.8	5.8	4.9	5.0	8.3
A 94 Hypertrophy of tonsils and adenoids	0.4	0.1	...	...	0.1	...	...	0.1	...	...	...	...	...
A 95 Empyema and abscess of lung	0.4	0.1	0.4	...	0.1	...	...	0.4	0.7	0.5	0.1	0.3	...
A 96 Pleurisy	0.2	0.2	...	...	0.4	0.3	0.3	0.1	0.1	0.3	0.1	0.1	...
A 97 All other respiratory diseases	7.2	8.4	5.2	3.7	7.9	6.2	7.1	7.8	12.9	10.9	9.0	12.2	16.7
IX. DISEASES OF THE DIGESTIVE SYSTEM	28.2	29.0	26.6	23.4	29.4	25.7	27.7	29.9	31.8	31.1	25.2	32.3	62.5
A 98 Diseases of teeth and supporting structures	*	*	...	0.9	0.1	...	0.1	*	1.6	2.6	1.8	3.9	...
A 99 Ulcer of stomach	2.6	2.6	1.9	0.9	2.6	2.9	2.6	2.6	2.3	2.9	2.8	3.5	...
A 100 Ulcer of duodenum	2.4	2.4	1.0	2.8	2.2	1.5	1.5	3.1	2.3	2.9	2.8	3.3	...
A 101 Gastritis	0.1	0.2	0.2	...	0.1	0.3	0.2	0.1	0.1	0.3	0.2	0.3	...
A 102 Gastritis and duodenitis	0.8	0.7	0.8	0.9	0.3	1.1	0.7	0.8	0.5	0.5	0.9	0.7	...
A 103 Duodenal obstruction and hernia	4.6	5.2	3.1	2.8	5.6	5.4	4.4	5.7	7.9	6.1	3.5	5.4	8.3
A 104 Gastro-enteritis and colitis, except diarrhoea of the newborn	4.7	4.7	13.3	1.9	6.0	3.9	4.4	3.8	4.9	7.2	4.5	4.1	45.8
A 105 Cirrhosis of liver	5.7	5.8	2.1	2.8	4.1	3.4	6.1	6.7	6.7	3.1	4.3	6.3	...
A 106 Cholelithiasis and cholecystitis	2.9	3.1	1.5	2.8	3.0	3.6	3.4	2.8	2.5	3.9	3.1	3.2	6.7
A 107 Other diseases of digestive system	4.3	4.4	2.7	7.5	5.3	3.6	4.3	4.2	5.2	4.5	4.1	4.8	8.3
X. DISEASES OF THE GENITO-URINARY SYSTEM	15.6	16.0	9.4	19.6	16.7	19.5	19.1	14.9	13.8	14.6	10.0	17.6	8.3
A 108 Acute nephritis	0.4	0.3	...	...	0.1	0.8	0.5	0.2	0.2	0.1	...	0.2	...
A 109 Chronic, other and unspecified nephritis	7.5	6.9	4.0	13.1	7.8	11.4	10.3	5.6	4.4	4.7	4.0	5.0	4.2
A 110 Infections of kidney	3.2	3.7	3.1	3.7	3.8	3.1	3.0	3.6	4.6	4.7	2.8	6.5	13.3
A 111 Calculi of urinary system	0.6	0.5	...	...	0.5	0.5	0.4	0.7	0.7	1.0	0.4	0.5	...
A 112 Hyperplasia of prostate ⁵	4.7	5.4	2.8	3.7	5.2	5.8	5.0	6.1	5.2	3.3	6.3	6.3	7.5
A 113 Diseases of breast .....	*	*	...	...	...	...	...	...	...	0.1	...	...	...
A 114 Other diseases of genito-urinary system	1.5	1.8	0.8	0.9	1.7	0.8	2.4	1.8	1.2	1.3	1.1	2.2	...
XI. DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILDBIRTH AND THE PUERPERIUM	40.7	35.4	45.3	101.7	10.5	38.0	45.6	29.7	44.0	29.7	28.6	29.4	86.1
A 115 Sepsis of pregnancy, childbirth and the puerperium ⁴	6.0	4.1	6.5	33.9	10.5	12.7	8.2	2.6	4.4	...	7.8	2.7	...
A 116 Toxæmia of pregnancy and the puerperium	5.3	6.0	...	...	...	6.3	8.2	4.5	8.8	...	2.6	8.0	...
A 117 Haemorrhage of pregnancy and childbirth	9.6	6.7	13.0	33.9	...	...	...	...	13.2	8.5	2.6	5.3	...
A 118 Abortion without mention of sepsis or toxæmia ⁴	1.7	0.9	...	...	...	...	...	...	...	...	...	...	...
A 119 Abortion with sepsis	3.2	4.5	...	...	...	...	4.5	5.8	4.4	...	10.4	2.7	...
A 120 Other complications of pregnancy, childbirth and the puerperium ⁴	14.9	13.3	25.9	33.9	...	19.0	16.5	12.3	13.2	12.7	7.8	8.0	86.1
XII, XIII. DISEASES OF THE SKIN AND MUSCULOSKELETAL SYSTEM	3.1	3.2	2.3	1.9	4.0	1.5	3.5	3.4	2.9	2.4	2.4	3.4	...
A 121 Infections of skin and subcutaneous tissue	0.3	0.3	0.2	...	0.1	0.2	0.2	0.4	0.2	...	0.2	0.6	...
A 122 Arthritis and spondylitis	1.2	1.4	1.0	...	2.1	0.5	1.5	1.4	1.8	1.2	0.6	1.7	...

DIVISION OF VITAL STATISTICS

TABLE 18—DEATH RATES PER 100,000 POPULATION AT ALL AGES ACCORDING TO THE INTERNATIONAL INTERMEDIATE LIST OF 150 CAUSES, CANADA, 1963 (Continued)

CAUSE OF DEATH (Intermediate List) (7th Rev.)	Canada		Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories
	1962	1963												
A123 Muscular rheumatism and rheumatism unspecified	•	•	•	•	•	•	0.1	•	0.1	•	•	•	•	•
A124 Osteomyelitis and periostitis	•	•	•	•	•	•	0.1	0.1	•	0.1	0.1	0.1	•	•
A125 Ankylosis and acquired musculoskeletal deformities	•	•	•	•	•	•	0.1	0.1	•	0.1	0.1	•	•	•
A126 All other diseases of skin and musculoskeletal system	1.4	1.3	1.0	1.9	1.6	0.7	1.6	1.4	0.8	1.1	1.4	1.1	•	•
XIV. CONGENITAL MALFORMATIONS	15.6	14.3	19.5	13.1	16.9	17.4	16.9	13.3	12.5	11.0	12.7	9.9	20.0	33.3
A127 Spina bifida and meningocele ^a	2.4	2.2	3.1	3.7	2.5	2.8	3.1	1.8	1.9	1.3	1.2	1.0	•	•
A Without hydrocephalus	1.0	1.0	1.7	0.9	1.3	0.8	1.6	0.8	0.4	0.2	0.3	0.6	•	•
B With hydrocephalus	1.4	1.2	1.5	2.8	1.2	2.0	1.5	1.1	1.5	1.1	0.9	0.4	•	•
A128 Congenital malformations of circulatory system	6.7	6.3	7.5	5.6	6.7	7.0	7.3	6.0	5.2	5.9	5.9	5.0	6.7	20.8
A129 All other congenital malformations ^a	6.5	5.8	8.9	3.7	7.7	7.7	6.5	5.4	5.5	3.9	5.6	3.9	13.3	12.5
XV. CERTAIN DISEASES OF EARLY INFANCY	39.4	37.3	56.3	31.8	32.9	37.1	42.6	33.4	32.5	37.9	38.9	29.6	40.0	237.5
A130 Birth injuries	7.2	6.5	8.1	6.5	3.7	5.0	8.4	5.7	8.8	6.6	5.1	4.8	6.7	20.8
A131 Perinatal asphyxia and atelectasis	7.9	7.2	10.6	4.7	4.5	4.9	7.2	7.2	6.4	7.5	9.5	6.8	13.3	33.3
A132 Infections of the newborn	2.8	2.5	10.6	3.7	2.2	1.6	3.1	1.7	2.2	2.0	2.5	2.2	•	29.2
A133 Haemolytic disease of newborn	1.8	1.5	1.5	3.7	1.5	2.4	2.4	1.3	0.7	1.4	1.5	1.1	•	•
A134 All other defined diseases of early infancy	1.3	1.1	2.1	2.8	1.7	1.0	1.4	0.8	1.1	1.2	1.0	0.8	•	4.2
A135 Ill-defined diseases peculiar to early infancy, and immaturity unqualified	18.3	18.3	23.5	14.0	19.3	22.1	20.5	16.8	13.3	19.2	19.3	14.0	20.0	150.0
XVI. SYMPTOMS, SENILITY AND ILL-DEFINED CONDITIONS	6.9	6.5	38.7	7.5	4.5	11.4	4.5	2.6	3.5	5.8	24.6	3.7	6.7	79.2
A136 Senility without mention of psychosis	2.8	2.7	19.5	1.9	2.2	6.7	1.7	1.1	1.7	4.5	7.8	1.3	•	29.2
A137 Ill-defined and unknown causes	4.0	3.8	19.1	5.6	2.2	4.7	2.9	1.5	1.8	1.3	16.7	2.4	6.7	50.0
EXVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO EXTERNAL CAUSE)	62.9	63.2	52.6	69.2	59.9	64.0	57.5	65.3	59.8	60.8	63.6	77.3	166.7	200.0
AE138 Motor vehicle accidents	23.3	23.6	16.6	24.3	22.6	27.9	26.3	22.7	19.9	19.5	24.9	21.9	46.7	8.3
A Traffic accidents (810-825)	22.7	23.1	16.2	24.3	21.8	27.0	26.0	22.2	19.7	19.1	24.1	21.4	46.7	8.3
B Non-traffic accidents	0.5	0.4	0.4	0.8	0.8	0.8	0.3	0.5	0.2	0.4	0.8	0.5	•	•
AE 139 Other transport accidents	2.7	3.5	4.0	3.7	4.5	3.4	2.2	4.0	4.0	3.1	2.7	4.8	40.0	33.3

A Drowning involving small boats (850)	1.3	1.4	3.1	1.9	3.3	2.1	1.0	1.4	2.0	1.1	0.9	1.4	13.3	12.5
B Drowning involving other water craft (851)	0.1	0.1	0.9	0.9	0.1	0.2	0.1	2.6	0.1	0.2	0.6	0.6	26.7	20.8
C Other transport	1.3	1.9	0.8	0.9	1.1	1.1	1.1	2.6	1.9	1.8	1.8	2.8	26.7	20.8
AE140 Accidental poisoning	2.1	2.0	0.6	4.7	2.5	0.8	1.1	2.1	1.7	1.9	2.9	4.8	8.3	8.3
AE141 Accidental falls	8.6	8.3	6.0	8.4	8.6	8.3	6.5	10.1	6.0	8.4	7.0	9.9	20.8	20.8
AE142 Accident caused by machinery	1.2	1.2	1.0	1.9	2.5	3.7	2.2	1.1	1.8	1.9	1.8	1.4	20.8	20.8
AE143 Accident caused by fire and explosion of combustible material	3.5	3.1	3.1	7.5	2.5	3.7	2.6	3.3	3.7	2.4	2.8	3.7	4.2	4.2
AE144 Accident caused by hot substance, corrosive liquid, steam and radiation	0.2	0.2	0.6	...	0.4	...	0.2	0.1	0.4	0.3	0.3	0.2	26.7	37.5
AE145 Accident caused by firearm	1.0	0.8	1.2	...	1.1	1.0	0.7	0.7	0.9	1.3	0.8	0.9	26.7	37.5
AE146 Accidents during	4.4	4.4	4.8	4.7	4.6	5.7	5.6	3.5	3.7	2.8	3.2	5.5	70.8	70.8
AE147 All other accidental causes	7.1	7.1	10.2	8.4	6.5	5.9	5.1	7.6	7.6	8.8	7.6	9.1	26.7	70.8
All accidental causes	54.3	54.3	48.2	63.6	53.3	58.8	51.5	55.1	49.7	50.4	54.1	62.4	140.0	187.5
AE148 Suicide	7.2	7.6	3.3	5.6	6.1	4.7	4.8	8.9	8.5	9.8	7.6	13.0	13.3	4.2
AE149 Homicide and injury purposely inflicted by other persons (not in war)	1.4	1.3	1.0	...	0.5	0.5	1.2	1.3	1.6	0.6	1.9	1.8	13.3	8.3
AE150 Injury resulting from operations of war .....	*	*	...	...	...	...	...	*	...	...	...	0.1	...	...
NXVII. ACCIDENTS, POISONINGS AND VIOLENCE (CLASSIFICATION ACCORDING TO NATURE OF INJURY)	62.9	63.2	52.6	69.2	59.9	64.0	57.5	65.3	58.8	60.8	63.6	77.3	166.7	200.0
AN138 Fracture of skull	14.2	14.4	8.1	15.9	11.1	15.8	18.3	13.4	9.7	9.2	13.1	15.3	20.0	12.5
AN139 Fracture of spine and trunk	3.9	3.5	2.5	0.9	4.1	3.9	3.5	3.6	3.4	2.8	2.8	4.4	13.3	...
AN140 Fracture of limbs	6.1	5.6	5.4	9.3	5.4	6.8	4.4	6.6	4.4	5.9	5.0	6.1	...	...
AN141 Dislocation without fracture .....	*	*	...	...	...	0.1	0.2	0.1	...	...	...	...	...	...
AN142 Sprains and strains of joints and adjacent muscles .....	*	*	...	...	...	...	...	*	...	...	...	...	...	...
AN143 Head injury (excluding fracture)	5.5	6.0	4.2	3.7	7.7	6.0	4.8	5.8	6.1	8.3	9.0	6.3	6.7	12.5
AN144 Internal injury of chest, abdomen and pelvis	9.3	10.1	6.7	9.3	7.3	10.7	7.0	11.9	11.6	12.8	12.6	11.3	20.0	8.3
AN145 Laceration and open wounds	1.0	1.0	0.6	2.8	1.3	0.3	0.6	1.1	0.4	1.2	1.5	1.9	...	4.2
AN146 Superficial injury, contusion and crushing with intact skin surface	0.1	0.1	...	...	...	...	...	...	...	...	...	...	...	...
AN147 Effects of foreign body entering through orifice	2.6	2.4	5.6	2.8	1.6	1.6	1.6	1.3	3.2	2.9	3.8	2.1	2.2	20.8
AN148 Burns	3.0	2.6	2.3	7.5	3.3	2.3	2.0	2.7	2.9	2.4	3.3	2.5	26.7	25.0
AN149 Effects of poisons	5.1	5.2	1.7	7.5	4.0	4.1	3.4	5.7	5.6	4.9	4.8	11.3	6.7	...
AN150 All other and unspecified effects of external causes	12.1	12.1	15.2	9.3	14.0	12.2	12.1	11.1	12.7	9.3	9.2	15.8	73.3	116.7

¹ Effective 1962, deaths where the underlying cause was reported as 'inactive' 'healed' or 'arrested' pulmonary tuberculosis were classified to tuberculosis; formerly such deaths were classified to the resulting pulmonary condition.

² Per 100,000 females.

³ Per 100,000 males.

⁴ Per 100,000 live births.

⁵ Due to changes in classification, 1962 figures are not strictly comparable with previous year.

* Less than 0.1 per 100,000 population.

TABLE 20—DEATHS OF INDIANS BY CAUSE AND SEX, BY AGE, ALBERTA, 1963

[illegible]

[illegible]

TABLE 21—DEATHS OF LEGAL INDIANS BY CAUSE AND SEX, BY AGE, ALBERTA, 1963

[illegible]

A 81 Arteriosclerotic and degenerative heart disease	8	Female
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TABLE 21—DEATHS OF LEGAL INDIANS BY CAUSE AND SEX, BY AGE, ALBERTA 1963 (Continued)

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TABLE 22—SELECTED CAUSES OF INFANT DEATH OF INDIANS BY SEX AND AGE AT DEATH, ALBERTA, 1963

Int. List No.	CAUSE OF DEATH (7th Rev.)	NEONATAL												AGE AT DEATH							POST-NEONATAL													
		Total under 1 year																																
		Total	Male	Female																														
					28 days under	Under 1 day	1 day	2 days	3 days	4 days	5 days	6 days	7-13 days	14-20 days	21-27 days	Total 28 days to 1 year	1 month	2 months	3 months	4 months	5 months	6 months	7 months	8 months	9 months	10 months	11 months							
		T.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	T.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.								
056	Whooping cough	1	1													1	1																	
085	Measles	5	4	1												5	4	1	1							1								
480-483	Influenza	20	13	7												20	13	7	2							1								
490-493	Pneumonia (4 weeks and over)	1	1	8												1	1	8								1								
500-502	Bronchitis	16	8	8												16	8	8																
571	Gastro-enteritis and colitis	7	5	2												7	5	2																
750-759	Congenital malformations	3	2	1												3	2	1																
760, 761	Injury at birth	4	3	1												4	3	1																
	—Without immaturity	3	2	1												3	2	1																
	—With immaturity	1	1													1	1																	
762	Postnatal asphyxia and atelectasis	6	4	2												6	4	2																
	—Without immaturity	1	1	1												1	1	1																
	—With immaturity	5	3	2												5	3	2																
763	Pneumonia of newborn	2	2													2	2																	
	—Without immaturity	2	2													2	2																	
	—With immaturity																																	
771	Haemorrhagic disease of newborn	1	1													1	1																	
	—Without immaturity	1	1													1	1																	
	—With immaturity																																	
772	Nutritional maladjustment	5	3	2												4	2	2																
	—Without immaturity	4	2	1												4	2	2																
	—With immaturity	1	1																															
773	Ill-defined diseases peculiar to early infancy	6	3	3												1	1	1																
	—Without immaturity	2	2													1	1																	
	—With immaturity	4	1	3												1																		
774-776	Immaturity	18	9	9												2	2	1																
795	Ill-defined and unknown causes	11	3	8												9	2	7																
E800-E862	All accidents	2	2													2	2																	
E916	Accidents caused by fire	2	1													2	1																	
E921, E922	Inhalation and ingestion of food or other object	1	1													1	1																	
E924, E925	Accidental mechanical suffocation	7	7													6	6																	
Residual	Other accidents	1	1													1																		
E800-E862	RESIDUALS																																	
Class III	(Allergic, etc. diseases)	2		2												2																		
Class VI	(Diseases of nervous system, etc.)	1		1												1																		
Class VIII	(Diseases of respiratory system)	1		1												1																		
	All other causes	1		1												1																		
	TOTAL	118	64	54	46	25	21	17	15	1	1	1	1	1	1	72	39	33	6	6	7	7	5	2	5	4	2	2	5	1	1	2	3	3

TABLE 24—LIVE BIRTHS OF INDIANS BY MONTHS, ALBERTA, 1963

MONTHS												
Total	January	February	March	April	May	June	July	August	September	October	November	December
2,171	194	181	186	194	170	176	173	183	197	173	168	176

TABLE 25—LIVE BIRTHS OF LEGAL INDIANS BY MONTHS, ALBERTA, 1963

MONTHS												
Total	January	February	March	April	May	June	July	August	September	October	November	December
1,231	119	109	95	117	79	102	99	113	95	108	101	94

TABLE 26—LEGITIMATE AND ILLEGITIMATE BIRTHS OF INDIANS
(EXCLUSIVE OF STILLBIRTHS) ALBERTA, 1963

Total Births			Legitimate			Illegitimate		
Total	Male	Female	Total	Male	Female	Total	Male	Female
2171	1044	1127	1405	681	724	766	363	403

TABLE 27—LEGITIMATE AND ILLEGITIMATE BIRTHS OF TREATY INDIANS
(EXCLUSIVE OF STILLBIRTHS) ALBERTA, 1963

Total Births			Legitimate			Illegitimate		
Total	Male	Female	Total	Male	Female	Total	Male	Female
1231	587	644	761	368	393	470	219	251

DIVISION OF VITAL STATISTICS

TABLE 28—LIVE BIRTHS OF INDIANS BY AGE OF PARENTS, ALBERTA, 1963

AGE OF MOTHER (years)	AGE OF FATHER											Total born to married mothers	Born to un- married mothers	Born to all mothers	
	Under 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65 and over				Not stated
13 years	1	1
14 years	1	.....	.....	.....	.....	.....	.....	.....	1	3
15 years	13	13
16 years	36	48
17 years	42	74
18 years	52	114
19 years	55	126
20 years	90	145
21 years	95	149
22 years	88	144
23 years	71	107
24 years	80	116
25 years	86	114
26 years	58	90
27 years	79	105
28 years	57	88
29 years	63	89
30 years	68	94
31 years	50	71
32 years	48	71
33 years	50	17
34 years	46	62
35 years	31	44
36 years	26	35
37 years	28	34
38 years	18	3
39 years	33	7
40 years	23	3
41 years	20	4
42 years	16	2
43 years	12	3
44 years	7	2
45 years	4	9
46 years	3	1
47 years	1	3
48 years
49 years
50 and over
Not stated	1	5
Total fathers	14	216	385	328	211	123	61	37	15	9	4	2	1405	766	2171

TABLE 29—LIVE BIRTHS OF LEGAL INDIANS BY AGE OF PARENTS, ALBERTA, 1963

AGE OF MOTHER (years)	AGE OF FATHER											Total born to married mothers	Born to un- married mothers	Born to all mothers
	Under 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65 and over			
13 years	1	1
14 years	1	...	...	...	...	...	1	2	3
15 years	7	9	9
16 years	1	5	...	1	...	...	...	...	...	...	...	13	22	29
17 years	2	5	3	3	...	...	...	...	...	...	...	35	36	42
18 years	3	24	7	1	...	...	...	...	...	...	...	36	48	71
19 years	1	20	14	1	...	...	...	...	...	...	...	42	36	84
20 years	2	17	20	2	1	...	...	...	...	...	...	38	28	78
21 years	1	8	24	5	...	...	...	...	...	...	...	33	27	66
22 years	...	16	24	4	1	...	1	...	...	...	...	46	31	77
23 years	1	6	19	5	1	1	...	...	...	...	...	33	27	60
24 years	...	6	23	11	3	...	...	1	...	...	...	44	22	66
25 years	...	5	18	18	6	...	...	...	...	...	...	47	18	65
26 years	...	1	17	9	3	...	1	...	...	...	...	31	21	52
27 years	...	1	11	22	4	3	...	1	...	...	...	42	18	60
28 years	4	15	6	1	...	...	...	...	...	26	17	43
29 years	9	13	5	2	1	...	...	...	...	31	17	48
30 years	...	1	7	12	11	3	...	...	...	...	...	36	12	48
31 years	...	1	1	13	10	1	...	...	2	...	...	26	13	39
32 years	4	14	12	2	...	1	...	...	...	34	9	43
33 years	3	8	10	5	4	...	...	...	1	30	13	43
34 years	4	8	7	2	2	1	1	...	25	10	35
35 years	1	9	9	2	...	1	...	...	22	9	31
36 years	2	10	1	1	...	...	2	...	16	8	24
37 years	6	6	...	1	1	...	...	14	3	17
38 years	1	6	1	...	...	1	...	9	2	11
39 years	1	4	13	4	3	...	1	...	26	3	29
40 years	1	5	2	3	2	...	1	14	1	15
41 years	2	5	3	...	...	1	1	12	1	13
42 years	1	1	2	3	1	...	...	8	1	9
43 years	2	1	2	2	...	1	8	3	11
44 years	3	...	1	...	...	4	...	4
45 years	2	...	...	...	2	...	2
46 years	1	...	1	...	...	2	...	2
47 years
48 years
49 years
50 and over	1	...	1
Not stated	...	1	...	...	...	...	...	...	...	...	...	1	...	1
Total fathers	11	118	208	165	115	74	29	21	10	6	4	761	470	1231

TABLE 31—LIVE BIRTHS AND LIVE BIRTHS IN HOSPITAL BY OCCURRENCE AND RESIDENCE FOR CENSUS DIVISIONS, ALBERTA, 1963

CENSUS DIVISIONS	TOTAL BIRTHS				BIRTHS IN HOSPITALS			
	Total by Occurrence	Total by Residence	By Occurrence; Residence Elsewhere	By Residence; Occurrence Elsewhere	Total by Occurrence	Total by Residence	By Occurrence; Residence Elsewhere	By Residence; Occurrence Elsewhere
ALBERTA	38,350	38,467	293	410	37,913	38,030	290	407
Division No. 1	936	937	42	43	919	920	42	43
Division No. 2	2,192	2,060	192	60	2,156	2,023	192	59
Division No. 3	809	858	47	96	785	832	47	94
Division No. 4	322	333	48	59	318	329	48	59
Division No. 5	637	918	33	314	626	906	31	311
Division No. 6	9,654	9,368	431	145	9,603	9,321	426	144
Division No. 7	1,063	1,034	96	117	1,056	1,076	96	116
Division No. 8	2,253	2,389	100	236	2,242	2,376	100	234
Division No. 9	362	431	32	101	342	411	32	101
Division No. 10	1,372	1,588	151	367	1,369	1,585	151	367
Division No. 11	13,231	12,411	1,047	227	13,212	12,392	1,046	226
Division No. 12	1,613	1,626	113	126	1,548	1,564	110	126
Division No. 13	998	1,099	177	278	989	1,090	177	278
Division No. 14	358	594	13	249	344	580	13	249
Division No. 15	2,550	2,771	42	263	2,404	2,625	42	263

TABLE 32—LIVE BIRTHS AND LIVE BIRTHS IN HOSPITAL BY OCCURRENCE AND RESIDENCE FOR URBAN PLACES OF 1,000 POPULATION AND OVER, ALBERTA, 1963

CITY, TOWN OR VILLAGE	Total Births				Births in Hospitals			
	Total by Occurrence	Total by Residence	By Occurrence; By Residence; Elsewhere	By Occurrence; By Residence; Elsewhere	Total by Occurrence	Total by Residence	By Occurrence; By Residence; Elsewhere	By Occurrence; By Residence; Elsewhere
Athabasca	195	52	149	6	195	52	149	6
Barrhead	311	76	238	3	310	76	237	7
Bellevue .....	.....	24	.....	24	.....	24	.....	24
Black Diamond .....	.....	23	.....	23	.....	23	.....	23
Blairmore .....	.....	44	.....	44	.....	44	.....	44
Bonnyville	193	100	101	8	193	100	101	8
Bow Island	96	31	70	5	96	31	70	5
Bowness	3	262	.....	259	.....	259	.....	259
Brooks	239	76	170	7	239	76	170	7
Calgary	9,062	8,079	1,102	119	9,040	8,067	1,101	118
Camrose	423	219	216	7	428	219	216	7
Cardston	178	98	90	10	178	97	90	9
Castor	101	29	72	.....	101	29	72	.....
Claresholm	81	39	44	2	81	39	44	2
Coaldale	91	54	50	13	91	54	50	13
Cold Lake	262	70	203	11	262	70	203	11
Coleman	5	62	2	59	4	61	2	59
Devon	25	26	11	12	25	26	11	12
Didsbury	137	47	95	5	135	46	94	5
Drayton Valley	307	143	185	21	307	142	185	21
Drumheller	278	129	156	7	278	129	156	7
Edmonton	12,320	8,750	3,674	104	12,313	8,742	3,673	102
Edson	195	108	109	22	195	108	109	22
Fairview	176	46	138	8	176	46	138	8
Fort Macleod	151	65	94	8	150	65	93	8
Fort Saskatchewan	1	87	.....	86	1	87	.....	86
Grand Centre .....	.....	116	.....	116	.....	116	.....	116
Grande Prairie	669	372	310	13	669	372	310	13
Grimshaw	148	54	.....	54	.....	54	.....	54
Hanna	347	65	86	3	348	65	86	3
High Prairie	347	111	234	18	346	111	233	18
High River	190	42	155	7	190	42	155	7
Hinton	150	132	31	13	148	130	31	13
Innisfail	242	98	157	13	242	98	157	13
Jasper Place	1	1,177	.....	1,176	.....	1,176	.....	1,176
Lac La Biche	247	79	175	7	247	79	175	7
Lacombe	267	102	175	10	267	102	175	10
Leduc	136	76	84	24	136	76	84	24
Lethbridge	1,297	906	417	26	1,294	905	415	26
Lloydminster .....	.....	117	.....	117	.....	117	.....	117
Magrath	56	21	36	1	56	21	36	1
McLennan	176	41	136	1	176	41	136	1
McMurray	40	30	19	9	40	30	19	9
Medicine Hat	823	602	234	13	823	602	234	13
Montgomery	1	130	.....	129	.....	129	.....	129
Nanton .....	.....	22	.....	22	.....	22	.....	22
Okotoks .....	.....	32	.....	32	.....	32	.....	32
Olds	202	87	123	8	202	87	123	8
Peace River	332	163	184	17	330	164	183	17
Pincher Creek	180	91	95	6	.....	91	95	6
Ponoka	234	143	109	18	234	143	109	18
Provost	129	36	94	1	129	36	94	1
Raymond	75	42	42	9	73	41	41	9
Redcliff .....	.....	63	.....	63	.....	63	.....	63
Red Deer	984	736	301	53	982	734	301	53
Redwater .....	.....	44	.....	44	.....	44	.....	44
Rimbe y	161	52	114	5	161	52	114	5
Rocky Mountain House	201	124	89	12	200	122	89	11
St. Albert .....	.....	281	.....	281	.....	281	.....	281
St. Paul	317	127	205	15	317	127	205	15
Stettler	285	140	163	18	285	140	163	18
Stony Plain	16	36	14	34	15	36	13	34
Sylvan Lake .....	.....	50	.....	50	.....	50	.....	50
Taber	289	98	200	9	289	98	200	9
Valleyview	155	59	99	3	155	59	99	3
Vegreville .....	.....	81	1	79	1	80	.....	79
Vermilion	191	81	119	9	191	81	119	9
Viking	157	59	102	4	157	59	102	4
Vulcan	108	28	84	4	108	28	84	4
Wainwright	74	35	52	13	74	35	52	13
Westlock	204	121	93	10	204	121	93	10
Weston	310	83	243	16	308	81	243	16
Wetaskiwin	391	143	262	14	391	143	262	14
Whitcourt .....	.....	97	.....	97	.....	97	.....	97

TABLE 33—LIVE BIRTHS BY MONTHS IN ALBERTA, 1963

	Total	January	February	March	April	May	June	July	August	September	October	November	December
Province of Alberta	38,467	3,152	2,932	3,312	3,413	3,510	3,093	3,435	3,202	3,279	3,179	2,894	3,066
Male	19,761	1,632	1,492	1,687	1,694	1,828	1,600	1,780	1,677	1,686	1,636	1,476	1,573
Female	18,706	1,520	1,440	1,625	1,719	1,682	1,493	1,655	1,525	1,593	1,543	1,418	1,493

TABLE 34—LIVE BIRTHS FOR CENSUS DIVISIONS BY TYPE OF ATTENDANCE, ALBERTA, 1963

CENSUS DIVISIONS	Total	Attended by			
		Physician	Nurse	Midwife	Unattended and Not Stated
ALBERTA	38,467	38,048	148	165	106
Division No. 1	937	920	.....	16	1
Division No. 2	2,060	2,030	2	19	9
Division No. 3	858	835	.....	18	5
Division No. 4	333	330	.....	2	1
Division No. 5	918	898	15	3	2
Division No. 6	9,368	9,350	.....	4	14
Division No. 7	1,084	1,077	.....	5	2
Division No. 8	2,389	2,381	1	5	2
Division No. 9	431	414	.....	15	2
Division No. 10	1,588	1,587	1	.....	.....
Division No. 11	12,411	12,397	1	4	9
Division No. 12	1,626	1,560	47	9	10
Division No. 13	1,099	1,091	4	1	3
Division No. 14	594	583	.....	10	1
Division No. 15	2,771	2,595	77	54	45

TABLE 35—LIVE BIRTHS IN INCORPORATED URBAN PLACES OF 1,000 POPULATION AND OVER BY TYPE OF ATTENDANCE, ALBERTA, 1963

CITY, TOWN OR VILLAGE	Total	Attended by			
		Physician	Nurse	Midwife	Unattended and Not Stated
Athabasca	52	51	1	.....	.....
Barrhead	76	76	.....	.....	.....
Bellevue	24	24	.....	.....	.....
Black Diamond	23	23	.....	.....	.....
Blairmore	44	44	.....	.....	.....
Bonnyville	100	100	.....	.....	.....
Bow Island	31	31	.....	.....	.....
Bowness	262	262	.....	.....	.....
Brooks	76	76	.....	.....	.....
Calgary	8,079	8,071	.....	.....	8
Camrose	219	219	.....	.....	.....
Cardston	98	98	.....	.....	.....
Castor	29	29	.....	.....	.....
Claresholm	39	39	.....	.....	.....
Coaldale	54	54	.....	.....	.....
Cold Lake	70	70	.....	.....	.....
Coleman	62	62	.....	.....	.....
Devon	26	26	.....	.....	.....
Didsbury	47	47	.....	.....	.....
Drayton Valley	143	143	.....	.....	.....
Drumheller	129	129	.....	.....	.....
Edmonton	8,750	8,745	1	.....	4
Edson	108	108	.....	.....	.....
Fairview	46	46	.....	.....	.....
Fort Macleod	65	65	.....	.....	.....
Fort Saskatchewan	87	87	.....	.....	.....
Grand Centre	116	116	.....	.....	.....
Grande Prairie	372	372	.....	.....	.....
Grimshaw	54	54	.....	.....	.....
Hanna	65	65	.....	.....	.....
High Prairie	111	111	.....	.....	.....
High River	42	42	.....	.....	.....
Hinton	132	132	.....	.....	.....
Innisfail	98	98	.....	.....	.....
Jasper Place	1,177	1,176	.....	.....	1
Lac La Biche	79	79	.....	.....	.....
Lacombe	102	102	.....	.....	.....
Leduc	76	76	.....	.....	.....
Lethbridge	906	906	.....	.....	.....
Lloydminster	117	117	.....	.....	.....
Magrath	21	21	.....	.....	.....
McLennan	41	41	.....	.....	.....
McMurray	30	30	.....	.....	.....
Medicine Hat	602	602	.....	.....	.....
Montgomery	130	129	.....	.....	1
Nanton	22	22	.....	.....	.....
Okotoks	32	32	.....	.....	.....
Olds	87	87	.....	.....	.....
Peace River	165	164	.....	1	.....
Pincher Creek	91	91	.....	.....	.....
Ponoka	143	143	.....	.....	.....
Provost	36	36	.....	.....	.....
Raymond	42	42	.....	.....	.....
Redcliff	63	63	.....	.....	.....
Red Deer	736	736	.....	.....	.....
Redwater	44	44	.....	.....	.....
Rimbey	52	52	.....	.....	.....
Rocky Mountain House	124	123	.....	1	.....
St. Albert	281	281	.....	.....	.....
St. Paul	127	127	.....	.....	.....
Stettler	140	140	.....	.....	.....
Stony Plain	36	36	.....	.....	.....
Sylvan Lake	50	50	.....	.....	.....
Taber	98	98	.....	.....	.....
Three Hills	59	59	.....	.....	.....
Valleyview	81	81	.....	.....	.....
Vegreville	81	81	.....	.....	.....
Vermilion	59	59	.....	.....	.....
Viking	28	28	.....	.....	.....
Vulcan	35	35	.....	.....	.....
Wainwright	121	121	.....	.....	.....
Westlock	83	82	.....	.....	1
Wetaskiwin	143	143	.....	.....	.....
Whitecourt	97	97	.....	.....	.....

TABLE 41—MARRIAGES BY MONTH OF MARRIAGE, 1963, ALBERTA

Total	10,163
January	353
February	594
March	502
April	777
May	766
June	1,272
July	1,063
August	1,367
September	799
October	922
November	1,027
December	721

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TABLE 43—MARRIAGES, MARITAL STATUS OF BRIDEGROOM BY STATUS OF BRIDE,
ALBERTA, 1963

	Total Marriages	MARRIAGES BETWEEN								
		Bachelors and			Widowers and			Div'ced Men and		
		Spinsters	Widows	Divorced Women	Spinsters	Widows	Divorced Women	Spinsters	Widows	Divorced Women
Alberta	10,163	8,371	226	461	90	191	65	425	94	240

TABLE 44—MARRIAGES, MARITAL STATUS BY AGE OF BRIDEGROOM, 1963

AGES	MARITAL STATUS			
	Total	Bachelors	Widowers	Divorced Men
Under 20 years	636	636	.....	.....
20 - 24 years	4,989	4,929	2	58
25 - 29 years	2,314	2,127	8	179
30 - 34 years	946	786	15	145
35 - 39 years	414	274	21	119
40 - 44 years	265	141	31	93
45 - 49 years	166	60	24	82
50 - 54 years	132	51	47	34
55 - 59 years	91	24	43	24
60 - 64 years	73	10	46	17
65 - 69 years	44	8	38	3
70 - 74 years	45	4	36	5
75 and over	48	8	40	.....
Not stated .....	.....	.....	.....	.....
Total	10,163	9,058	346	759

TABLE 45—MARRIAGES, MARITAL STATUS BY AGE OF BRIDE, 1963

AGES	MARITAL STATUS			
	Total	Spinsters	Widows	Divorced Women
Under 20 years	3,614	3,606	1	7
20 - 24 years	4,147	3,989	25	133
25 - 29 years	988	762	29	197
30 - 34 years	471	281	46	144
35 - 39 years	283	121	52	110
40 - 44 years	212	65	71	76
45 - 49 years	147	32	63	52
50 - 54 years	111	21	61	29
55 - 59 years	67	4	55	8
60 - 64 years	51	3	43	5
65 - 69 years	45	1	39	5
70 - 74 years	20	1	19	.....
75 and over	7	.....	7	.....
Not stated .....	.....	.....	.....	.....
Total	10,163	8,886	511	766

TABLE 46—MARRIAGES, BIRTHPLACE OF GROOM BY BIRTHPLACE OF BRIDE, ALBERTA, 1963

BIRTHPLACE OF GROOM	BIRTHPLACE OF BRIDE																	
	Total Grooms	CANADA																
		Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories	Province Unspecified	British Isles and Possessions	Europe	Asia	United States	Other
Newfoundland	19	3	1	...	...	1	1	1	1	10	1	...	...	...	1	...	1	...
Prince Edward Island	18	...	...	...	1	4	1	9	11	45	5	...	...	7	2	...	1	...
Nova Scotia	86	...	10	...	...	2	2	5	5	23	2	...	...	2	1	...	1	...
New Brunswick	45	...	3	...	...	2	2	3	5	23	8	...	...	4	...	...	3	...
Quebec	110	...	2	...	10	8	3	9	63	8	...	...	...	2	16	...	3	...
Ontario	394	1	1	...	1	36	19	54	217	16	...	...	...	13	15	...	5	...
Manitoba	390	1	1	...	6	13	36	56	227	12	...	...	...	9	33	...	3	...
Saskatchewan	1,220	3	1	...	8	41	42	282	693	47	2	...	...	42	158	...	12	...
Alberta	5,633	6	10	33	13	23	145	545	4172	204	2	...	...	156	44	...	44	...
British Columbia	350	2	2	...	2	1	8	16	203	29	...	...	...	20	12	...	5	...
Yukon	1	...	...	...	...	1	...	...	45	...	...	...	...	1	...	...	...	...
Northwest Territories	6	...	...	...	...	1	...	1	4	...	...	...	...	...	...	...	...	...
Province unspecified	...	...	...	...	2	16	14	...	156	20	...	...	...	78	23	...	15	...
British Isles and possessions	377	2	2	...	5	12	22	86	388	28	...	...	...	43	574	...	9	...
Europe	1,186	2	...	...	2	9	10	17	7	4	...	...	...	1	2	34	1	...
Asia	52	...	...	...	...	...	...	...	6	...	...	...	...	12	9	...	72	...
United States	264	1	...	...	2	9	10	17	125	6	...	...	...	1	...	...	2	...
Other	12	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...
TOTAL	10,163	21	17	72	35	68	297	276	1160	6350	383	4	15	390	846	45	172	12

TABLE 47—MARRIAGES—RELIGIOUS DENOMINATION OF GROOM BY RELIGIOUS DENOMINATION OF BRIDE, ALBERTA, 1963

[illegible]

TABLE 47—MARRIAGES—RELIGIOUS DENOMINATION OF GROOM BY RELIGIOUS DENOMINATION OF BRIDE, ALBERTA, 1963 (Continued)

RELIGIOUS DENOMINATION OF GROOM	RELIGIOUS DENOMINATION OF BRIDE																																											
	Total Grooms	Adventists	Anglicans	Apostolic bodies	Baptists	Brethren including United	Christadelphians	Christians	Christian Missionary Alliance	Christian Scientists	Churches of Christ (Disciples)	Church of God	Doukhobors	Eastern Orthodox Churches	Evangelicals	Gospel bodies	Greek Catholic Churches	Holiness Movement	International Bible Students	Jewish	Lutherans	Mennonites	Methodists	Moravian Church	Mormons	Non-denominational	Oriental religions	Pentecostal Assemblies	Plymouth Brethren	Presbyterians	Reform Churches (Christian)	Roman Catholics	Salvation Army	Society of Friends	Spiritualists	Swedenborgians	Unitarians	United Church of Canada	Other religions	Unspecified or unknown				
Mennonites	137	...	5	...	3	1	1	1	1	1	6	93	10	4	2	...	3	...	3	...	3	...	3		
Methodists	46	...	4	...	3	1	1	1	4	...	158	4	1	...	13	
Moravian Church	15	...	2	...	1	1	1	1	...	7	101	1	
Non-denominational	229	...	14	1	6	...	1	1	1	1	1	1	1	1	2	...	1	21	1	1	1	
Oriental religions	270	...	12	1	
Pentecostal Assemblies	35	...	11	
Plymouth Brethren	161	...	12	1	3	2	...	1	1	6	1	1	...	1	1	
Plymouth Brethren	15	...	1	1	1	1	
Presbyterians	286	...	40	...	8	2	...	2	2	...	1	...	7	4	23	1	1	2	4	2	
Reformed Churches (Christian)	156	1	5	...	1	1	...	1	1	...	1	3	...	1	...	13	1	1	1	1	4	2	
Roman Catholic	2,478	2	138	...	25	2	...	2	1	...	5	1	1	34	...	4	60	5	115	4	4	11	32	2	16
Salvation Army	18	...	3
Society of Friends
Spiritualists
Swedenborgians	3	...	1	
Unitarians	3
United Church
United Church of Canada	2,971	4	287	...	71	12	...	2	4	4	58	1	6	3	20	4	179	13	3	4	23	13	4	21
Other religions	13	...	2
Non-religious
Non-religious denominations	54	...	8	4
Unspecified or unknown	1
Total brides	10,163	37	1038	16	294	45	2	8	41	2	30	23	1	137	40	12	310	1	46	31	858	130	30	16	235	194	36	150	10	276	118	2506	20	1	8	329	12	39	

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TABLE 48—STILLBIRTHS BY SEV AND PERIOD OF GESTATION,
ALBERTA, 1963

PERIOD OF GESTATION	Male	Female
20 weeks	2	2
21 weeks	5	2
22 weeks	7	3
23 weeks	6	2
24 weeks	3	7
25 weeks	8	6
26 weeks	10	5
27 weeks	4	5
28 weeks	8	12
29 weeks	2	2
30 weeks	7	5
31 weeks	5	5
32 weeks	17	8
33 weeks	8	4
34 weeks	14	13
35 weeks	10	6
36 weeks	18	18
37 weeks	13	15
38 weeks	16	17
39 weeks	23	11
40 weeks	30	35
41 weeks	6	8
42 weeks	3	10
43 weeks	8	2
44 weeks	1	2
45 weeks	....	1
46 weeks	....	....
47 weeks	....	....
48 weeks	....	....
Not stated	2	2
Total 28+ weeks	191	176
Total 20+ weeks	236	208

TABLE 49—RATIO OF MALE TO FEMALE BIRTHS AND OF BIRTHS TO DEATHS

Year	Births of Males to 1,000 Births of Females	Ratio of Births to Deaths	Year	Births of Males to 1,000 Births of Females	Ratio of Births to Deaths
1905	1,059	3.13	1935	1,055	2.81
1906	1,094	2.07	1936	1,049	2.57
1907	1,075	2.96	1937	1,019	2.38
1908	1,077	2.73	1938	1,046	2.70
1909	1,086	2.59	1939	1,046	2.85
1910	1,065	2.69	1940	1,033	2.79
1911	1,103	2.43	1941	1,054	2.71
1912	1,084	2.43	1942	1,058	3.02
1913	1,053	2.67	1943	1,041	2.96
1914	1,081	3.30	1944	1,060	3.06
1915	1,000	3.74	1945	1,061	3.08
1916	1,063	3.29	1946	1,036	3.36
1917	1,061	3.25	1947	1,061	3.76
1918	1,069	1.88	1948	1,049	3.44
1919	1,074	2.56	1949	1,051	3.52
1920	1,055	2.92	1950	1,052	3.74
1921	1,055	3.32	1951	1,039	3.76
1922	1,034	3.06	1952	1,058	3.95
1923	1,072	3.13	1953	1,063	4.10
1924	1,036	2.97	1954	1,073	4.60
1925	1,036	2.97	1955	1,066	4.31
1926	1,053	2.80	1956	1,060	4.48
1927	1,065	2.94	1957	1,055	4.32
1928	1,064	2.75	1958	1,064	4.47
1929	1,042	2.71	1959	1,066	4.49
1930	1,027	3.21	1960	1,066	4.38
1931	1,075	3.25	1961	1,045	4.39
1932	1,052	3.08	1962	1,039	4.18
1933	1,053	3.01	1963	1,066	4.07
1934	1,032	3.04			

TABLE 50—DIVORCES AND NULLITIES, BY JUDICIAL DISTRICTS
FOR THE YEAR 1963, ALBERTA

JUDICIAL DISTRICTS	DIVORCES			NULLITIES		
	Number of Divorces	Granted to Husband	Granted to Wife	Number of Nullities	Granted to Wife	Granted to Husband
Edmonton	608	235	373	5	3	2
Calgary	498	213	285	8	6	2
Lethbridge	54	14	40	.....	.....	.....
Medicine Hat	20	9	11	.....	.....	.....
Peace River	16	8	8	.....	.....	.....
Grande Prairie	15	3	12	1	1	.....
Hanna	1	.....	.....	.....	.....	.....
Red Deer	40	21	19	.....	.....	.....
Drumheller	1	1	.....	.....	.....	.....
Fort Macleod	1	.....	1	.....	.....	.....
Wetaskiwin	13	4	9	.....	.....	.....
Vegreville	1	1	.....	.....	.....	.....
Totals	1268	509	759	14	10	4

TABLE 51—DIVORCES AND NULLITIES IN ALBERTA SINCE THE PASSING
OF THE ACT

YEAR	Granted to Husband	Granted to Wife	Total
1919	3	3	6
1920	74	26	100
1921	53	37	90
1922	80	49	129
1923	57	32	89
1924	66	53	119
1925	59	42	101
1926	79	75	154
1927	83	66	149
1928	91	84	175
1929	77	71	148
1930	64	87	151
1931	69	87	156
1932	68	81	149
1933	56	79	135
1934	62	106	168
1935	74	135	209
1936	74	135	209
1937	102	139	241
1938	105	162	267
1939	104	163	267
1940	119	154	273
1941	135	176	311
1942	179	201	380
1943	190	223	413
1944	245	243	488
1945	302	273	575
1946	494	480	974
1947	404	478	882
1948	302	357	659
1949	262	332	594
1950	249	311	560
1951	255	334	589
1952	239	391	630
1953	228	375	603
1954	224	384	608
1955	233	394	627
1956	278	410	688
1957	317	409	726
1958	295	457	752
1959	343	509	852
1960	399	566	965
1961	381	675	1056
1962	411	690	1101
1963	513	769	1282

TABLE 52—POPULATION, BIRTHS, MARRIAGES, DEATHS AND RATES FOR THE YEARS 1905 - 1963

Year	Population	Number of Births	Birth Rate	Number of Marriages	Marriage Rate	Number of Deaths	Death Rate	Infantile Death Rate per 1,000 Births	Maternal Death Rate per 10,000 Births	Natural Increase
1905	185,000	421	20.41	187	6.77	114	7.36	90.00	---	13.04
1906	226,000	3,003	20.05	1,907	8.08	1,091	6.68	100.27	63.3	13.36
1907	266,000	4,732	22.45	2,032	7.63	1,578	8.22	126.57	60.2	14.22
1908	306,000	5,977	22.49	2,384	7.92	2,062	8.41	---	---	14.07
1909	336,000	8,813	24.49	3,086	9.18	3,526	10.49	129.49	86.3	14.00
1910	374,000	10,281	23.56	3,630	9.70	3,618	9.67	134.46	97.5	13.88
1911	400,000	11,871	23.41	4,239	11.07	4,232	10.58	124.75	124.75	15.13
1912	429,000	13,685	23.47	4,623	10.39	4,432	10.63	120.47	70.7	17.84
1913	459,000	13,685	30.70	4,623	10.39	4,417	9.32	100.54	61.3	21.43
1914	480,000	13,452	28.90	4,202	8.55	3,588	7.73	87.9	57.9	21.26
1915	496,000	13,331	27.01	4,230	8.53	3,588	7.73	87.9	57.9	21.26
1916	508,000	13,576	27.01	4,230	8.53	3,588	7.73	87.9	57.9	21.26
1917	522,000	14,890	25.72	4,048	7.92	3,588	7.73	87.9	57.9	21.26
1918	522,000	14,890	25.72	4,048	7.92	3,588	7.73	87.9	57.9	21.26
1919	522,000	14,890	25.72	4,048	7.92	3,588	7.73	87.9	57.9	21.26
1920	522,000	14,890	25.72	4,048	7.92	3,588	7.73	87.9	57.9	21.26
1921	565,000	16,565	26.72	4,661	8.24	4,661	8.24	91.93	68.8	17.57
1922	588,000	16,414	26.89	4,661	7.92	4,661	7.92	91.93	68.8	17.57
1923	592,000	16,163	26.44	4,272	6.09	5,281	8.06	82.40	53.0	18.75
1924	593,000	15,153	25.75	4,177	6.09	4,907	8.30	82.40	53.0	18.75
1925	597,000	14,598	24.74	4,160	7.27	4,717	7.86	72.90	51.8	16.42
1926	602,000	15,014	25.02	4,363	7.27	4,717	7.86	72.90	51.8	16.42
1927	608,000	14,455	23.79	4,498	7.40	5,156	8.49	81.63	58.9	16.16
1928	623,000	14,897	24.03	4,707	7.58	5,059	8.16	74.51	58.9	16.16
1929	684,000	15,652	26.19	5,776	9.12	5,699	9.00	76.50	67.5	18.79
1930	708,000	16,324	26.49	6,004	8.08	5,396	8.33	63.57	64.6	18.41
1931	744,000	17,489	26.74	5,354	7.20	5,302	7.14	58.68	50.4	18.41
1932	732,000	17,252	23.57	5,354	7.20	5,302	7.14	58.68	50.4	18.41
1933	740,000	16,990	22.83	5,354	7.20	5,302	7.14	58.68	50.4	18.41
1934	756,000	16,123	21.10	5,354	7.20	5,302	7.14	58.68	50.4	18.41
1935	770,000	16,183	21.0	6,010	7.81	5,337	7.07	54.89	45.3	14.24
1936	772,782	15,786	20.4	6,020	7.81	5,337	7.07	54.89	45.3	14.24
1937	783,000	15,903	20.3	6,345	8.2	5,337	7.07	54.89	45.3	14.24
1938	783,000	15,903	20.3	6,345	8.2	5,337	7.07	54.89	45.3	14.24
1939	789,000	16,470	20.9	6,933	8.9	5,871	8.0	60.0	57.6	12.5
1940	790,000	17,359	21.8	7,838	9.9	6,203	7.8	46.0	48.4	12.4
1941	796,169	17,308	21.7	8,470	11.0	6,385	8.0	46.0	48.4	12.4
1942	805,000	18,317	22.7	9,034	11.2	6,091	7.5	38.0	31.2	13.7
1943	818,000	19,290	23.7	7,771	9.8	7,345	7.6	30.0	23.5	15.2
1944	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1
1945	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1
1946	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1
1947	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1
1948	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1
1949	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1
1950	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1
1951	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1
1952	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1
1953	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1
1954	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1
1955	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1
1956	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1
1957	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1
1958	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1
1959	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1
1960	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1
1961	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1
1962	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1
1963	826,000	19,373	23.7	7,299	8.9	6,524	8.2	42.0	22.4	16.1

